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HARVARD
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THE
HOUSEHOLD MANUAL

— OF —

DOMESTIC HYGIENE, FOODS AND DRINKS, COMMON
DISEASES, ACCIDENTS AND EMERGENCIES,
AND USEFUL HINTS AND RECIPES.

With Many Other Interesting Topics.



PUBLISHED AT
THE OFFICE OF THE HEALTH REFORMER,
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1875.

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PRESERVATION MASTER
AT HARVARD

PREFACE.

As indicated by the title page, this little work deals with quite a variety of topics. It is thought, however, that all the subjects considered will be found usefully suggestive to every household. The aim has been to make the work eminently practical in character, and to condense into the smallest space the greatest possible amount of information.

The suggestions and hints given under the head of "Domestic Hygiene," if thoroughly appreciated and applied, will obviate a very large proportion of the ills and suffering incident to domestic life.

The chapter on "Foods and Drinks" contains much which may be new to a majority of those who have never investigated the subject from the standpoint of health. It is not intended to be in any sense complete, the object being only to call attention to a few of the ways in which disease and premature death are occasioned by errors in diet. Those who are interested to pursue the subject further should send to this Office for other works which explain it more fully, the names of which are given in our book list at the close of the volume.

In "Simple Remedies for Common Diseases" are given directions for treating more than sixty common maladies with such remedies (with few exceptions) as *to be found in any household.*

“Accidents and Emergencies” will be found to afford such information as may enable a person to be the means of saving many lives if it is carefully and promptly applied at the proper time.

The recipes for cooking have been tested by experienced cooks and others, and will be found to be a great improvement over those in ordinary use, as all admit upon making a fair trial. The miscellaneous recipes have been collected from numerous reliable sources, with much care, and it is hoped that all may find something among them that will be really a desideratum.

The two essays by Dr. R. T. Trall which form the concluding portion of the book are valuable and interesting. A table of contents of each will be found in immediate connection with it instead of being introduced into the index.

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DISEASES OF WOMEN, by R. T. Trall, M. D.

TOBACCO-USING, an Essay by R. T. Trall, M. D.

DOMESTIC HYGIENE.

STATE and National Health Boards and Committees certainly do excellent work for communities and nations; but the real influence which they exercise over the health of individuals is insignificant when compared with that which may be, and indeed is, exercised by the matrons of the various households which make up villages, cities, and nations. City authorities may exercise a rigid surveillance over all the avenues through which disease is known to enter; they may keep the public streets cleanly, introduce costly means of supplying water, and cause the removal beyond the suburbs of slaughter-houses, tanneries, soap-boiling establishments, and noisome chemical works; but if the seeds of death and disease are allowed to germinate and flourish in each separate dwelling, and around each fireside, what favorable results can be expected?

All reforms must begin at home, to be effective; and we would urge upon all parents the importance of careful attention to the simple suggestions which are herein offered, by means of which they may be able to save themselves and their families from numerous illnesses, with their *attendant inconveniences, expense, and suffering.*

and, probably, in many cases, from untimely death.

Ventilation.—From the first quick gasp of infancy to the last feeble sigh of old age, the prime necessity of life is air. Air is food for the lungs, as bread is food for the stomach. Millions more people die from want of lung food than from a deficiency of other aliment. The Creator has provided the necessary article in generous abundance, fresh, pure, and free to all. If we do not get enough, it is our own fault, for when we close our doors and windows the closest, this vitalizing, invigorating element is whizzing and howling close around outside, seeking to find an entrance.

People who nail up their windows, stop every crack and crevice in the walls, line the door casing with felt, and fix a patent thing under the door as a sort of air-trap to catch the occasional whiffs of pure air which might otherwise get in, are barricading themselves against their best friend. A man who should so studiously and deliberately deprive himself of the means of procuring ordinary food, would be pronounced a suicide. Is he any less a transgressor—though ignorantly so—who deprives himself and his family of a still greater necessity, pure air?

Every man produces five gallons of carbon dioxide, a deadly poison, every hour. This poison is so deadly that the amount produced and carried *out of the body* at each breath poisons, and renders unfit for breathing, three cubic feet of air.

An ordinary gas burner produces as much carbon di-oxide as six men, and poisons three hundred cubic feet of air a minute. A man poisons fifty cubic feet each minute.

Besides carbon di-oxide, the breath contains another poison even worse. It is the organic matter contained in the moisture of the breath. This it is which gives to the breath its foul odor, and to the air of a close room its peculiar fusty smell.

How to Ventilate.—The only way to get fresh air is to obtain it from out-of-doors, by exchanging the foul air within for pure air without.

How much fresh air do we need? Every man needs enough to dilute the poison which he exhales sufficiently to render it harmless. To effect this, a quantity of air 5,000 times as great as the amount of carbon di-oxide produced, is required. In other words, 5,000 gallons of pure air are necessary to render harmless one gallon of carbon di-oxide. A man produces a gallon of this poison every twelve minutes, or five gallons an hour; hence, he requires 5,000 gallons of pure air every twelve minutes, or 25,000 gallons each hour—more than 3,000 cubic feet.

HOW IS THIS AMOUNT OF AIR TO BE OBTAINED?—Hot air and cold air are like oil and water. The cold air sinks to the bottom and presses up the hot air. To ventilate well, then, there must be two openings; one at the bottom, *and the other at the top.* What! shall we open

the windows at top and bottom on a cold, wintry day? Certainly. Cold air is not poison. Plenty of air and a rousing fire are cheaper in the long run than foul air and less fire.

But will not cold air produce colds, and lung fevers, and pleurisies, and consumptions? People don't catch cold in open sleighs nor when walking in the wind. Draughts of cold air upon a small portion of the body only, will occasion cold; but there need be no draughts. Avoid them in this way:—

Make a strip of board, three or four inches wide, just the length of the window casing. Fit it beneath the lower sash. This makes an opening between the two sashes where they overlap. Here the air can enter, and being thrown upward toward the ceiling, it will be productive of no harm to any one.

Another way: Lower a window at the top on one side of the room, and on the opposite side raise another a little at the bottom. Place a screen of fine netting in front of each, and the room will be pretty well ventilated without draughts.

HOW MUCH SHALL THE WINDOW BE OPENED? Under ordinary circumstances, allow one inch inlet and outlet, in vertical measurement, for each occupant of a room.

The old-fashioned fire-place was a most efficient ventilator. It is a good omen that fire-places are *again coming into use*. No residence should be

built without one. The most fashionable parlors in the large cities are now heated by them.

If flues are used in ventilating rooms, it is absolutely necessary that the air in them should be heated several degrees higher than that in the rooms, to secure a draught. There should be two openings into the flue; one near the ceiling, and the other at the floor.

Never sleep in a room which is unventilated.

To Destroy Foul Odors.—Abundance of fresh air is the best deodorizer. There is no substitute for ventilation. Pure air washes away foul smells as water washes away dirt. One removes solid filth, the other gaseous filth. If the offensive body is movable, be sure to remove it. If not, apply something to destroy it. Several agents will effect this.

If it can be safely done, set fire to the foul mass; or, if this is undesirable, heat it almost to the burning point.

Apply very dry, finely pulverized earth. Clay is the best material. Finely powdered charcoal which has been freshly burned, is quite as good as earth. Dry coal or wood ashes are excellent.

Make a solution of permanganate of potash, dissolving one ounce in a quart of water. Add this to the offensive solid or fluid until it is colored like the solution. An excellent deodorizer. *It is needed in every household.* A supply of

the solution should be kept constantly on hand, ready for use.

Copperas dissolved in water in proportion of one pound to the gallon of water is cheaper, and may be used when large quantities are needed. Apply it freely.

Bromo-chloralum is a very good deodorizing agent, but is rather expensive.

Chlorine gas, chloride of lime, ozone, and numerous other agents, are effective when rightly used.

Cess-pools.—Drains, sewers, and cess-pools, connected with a house, are often sources of serious disease. The kitchen sink is not unfrequently the door through which the germs of disease silently creep into a household and develop into disease and death, the cause of which remains a mystery, and is attributed to the inscrutable dealings of Providence.

In the summer, draughts are produced in the room, which suck up the filthy gases which are formed in the cess-pool or sewer, through the drain-pipe—unless it is furnished with an efficient water-trap, which is not usually the case. In the winter, the gases of the cess-pool are naturally warmer than the air above, and so they rise and find their way into the house, filling it with invisible poison, which is breathed, and thus taken into the blood, by every occupant of the dwelling. Thousands of valuable lives are *usually* sacrificed in this way.

How shall this evil be remedied? In cities, the problem is a difficult one, unless sewers can be replaced by the dry-earth system. In the country and in small towns, it is easily cured thus:—

Make the cess-pool some little distance from the house. Place in communication with it a wooden ventilating flue sixteen or eighteen feet in height, and four to six inches square inside. This will carry off the foul gases under ordinary circumstances, but it will sometimes be found inefficient; hence, a water-trap should be formed in the drain-pipe, just beneath the sink, by bending the pipe so that it will retain constantly three or four inches of water.

A still better way is to connect the drain-pipe with the chimney or stove-pipe, by means of a pipe of suitable size. This will secure ventilation of the drain; and if the connecting pipe joins the drain-pipe just beneath the sink, the protection will be perfect. All joints should be airtight, and the outlet from the sink should be plugged tightly when there is no fire in stoves communicating with the chimney.

Another valuable precaution is this: Pour into the sink, at least once a week, a gallon of water in which a pound of copperas has been dissolved. A few crystals kept constantly in the sink could do no harm. It is very cheap when bought by the quantity.

A new cess-pool should be made at least once a year, or the old one should be thoroughly cleaned

The Germs of Disease.—What are they? They are little animals—animalculæ—and the seeds of microscopic plants. How do they make a person sick? They are taken into the lungs or the stomach. Then they find their way into the blood. Here they develop and multiply to a remarkable extent, and with astonishing rapidity. Some kinds are very deadly; others are much less so, and some again seem to be almost harmless.

If you wish to see some of the latter kind, shut yourself up in a darkened room on a sunny day. Make a little opening in the window curtain, and thus admit a pencil of light. As you look across it, you will notice multitudes of little specks, "motes, dancing in the sunbeam." These are the little germs which will develop, under favorable circumstances, into plants and animals of microscopic proportions, but in numbers too vast to enumerate. These are the agents which cause bread to rise, malt and wine to ferment, and the housewife's carefully hoarded canned fruit to "spoil."

All kinds of putrid matter, whether of animal or vegetable origin, send out immense quantities of germs which are of a much more poisonous character than those just referred to. These latter are the exciting causes of such diseases as typhoid fever, ague, bilious fever, typhus fever, and cerebro-spinal meningitis.

Under the House.—Many families who *under why* "some of the children are sick all of

the time," can find the cause underneath the floor. Nearly all houses have cellars. Here are stored all sorts of things for winter use—dead things and live things, articles to eat and fuel to burn, old boxes and barrels, heaps of coal, bins of vegetables, etc., etc. The coal and wood are continually sending up foul gases and germs. Many of the vegetables undergo decay and add greatly to the production of disease elements.

Besides the cellar there is usually an open space under the other portions of the house, between the foundation walls. This space is large enough to admit chickens, dogs, cats, rats, even pigs, and other small animals, but not sufficiently large to allow room for clearing it. Here various small animals find a hiding-place, and often die. Being out of sight and reach, they are not discovered even when the stench of their decaying bodies becomes distinctly manifest.

All the foul gases engendered in these various ways pass upward into the house, filling every room, condensing in fetid moisture upon the walls, and poisoning all who breathe in the house. What shall be done?

Cellars under a house are rather prejudicial to health, even at best. As they are commonly used, they are very greatly so. If there must be cellars beneath the house, they should be large, light, and well ventilated. Every week at least the cellar windows should be opened wide to allow free change of air. A good way to ventilate a cellar is to extend from it a pipe to the kitchen

chimney. The draught in the chimney will carry away the gases which would otherwise find their way into the rooms above.

Cellars should be kept clear of decaying vegetables, wood, wet coal, and mold. The walls should be frequently white-washed, or washed with a strong solution of copperas. The importance of some of these simple measures cannot well be overestimated.

Houses should be built so high above the ground that the space beneath can be easily cleared every few months.

Sunshine.—In caves, mines, and other places which are excluded from the light, plants do not grow, or, at most, they attain only a sickly development. The same is true of animals. In the deep valleys among the Alps of Switzerland, the sun shines only a few hours each day. In consequence, the inhabitants suffer terribly from scrofula and other diseases indicative of poor nutrition. The women, almost without exception, are deformed by huge goiters, which hang pendant from their necks unless suspended by a sling. A considerable portion of the males are idiots. Higher up on the sides of the mountains, the inhabitants are remarkably hardy, and are well developed, physically and mentally. The only difference in their modes of life is the greater amount of sunshine higher up the mountain side. When the poor unfortunates below are carried *up the mountain*, they rapidly improve.

Throw open the blinds and draw aside the window curtains. Never mind if the carpets do fade a little sooner. The pale cheeks will acquire a deeper hue, and the sallow skins will become of a more healthy color.

A sitting-room ought to be on the east or south side of a house, so that sunlight will be plentiful. House plants will not thrive in a north room. Women and children, who live mostly in the house, thrive no better in such a situation than plants. Sleeping rooms should be aired and sunned every day.

House Plants in Sleeping Rooms.—It is a very popular error that house plants are injurious in sleeping rooms and sick rooms. It is commonly supposed that plants draw the vitality of the patient, or poison the atmosphere in some way. This is wholly an error, if we except a few of the more strongly scented plants which emit a somewhat poisonous odor, or which might in some cases be unpleasant to the senses of a nervous patient. Plants cannot draw vitality from animals. Indeed, they are the one great means which make human life possible; for if they did not purify the air, all animals would quickly perish.

Plants inhale carbon di-oxide during the day, and exhale oxygen. During the night, they inhale carbon di-oxide the same as in the daytime, but exhale a part of it again, along with *the oxygen*. They purify the air, then, during *the night, but less than during the day.*

A mouse and a growing plant can live together in an air-tight box. Alone, either one would die; together, they both thrive. Plants purify the air for human beings as well as for mice.

Plants also remove impurities from the air by means of the *ozone* which they produce, which is one of the most powerful disinfectants known. The laurel, hyacinth, mint, mignonette, lemon tree, and fever-few are among the best ozone-producing flowers.

The cheerful aspect which flowers give to a room, and the pleasant recreation which their care affords, are not the least of the advantages to be derived from them.

✦ **Beds and Bedding.**—A cold, damp, musty bed has cost the world many a valuable life. The “spare bed” is a genuine terror to traveling ministers, and school teachers who board around. A night spent in one of them is a certain cause of cold, headache, sore lungs, sore muscles, and stiff joints the next day. Never sleep in a room which has been unused for weeks, unaired, unwarmed, and secluded from sunlight, until the bedding, at least, has been thoroughly aired and dried, and the air of the room thoroughly changed by ventilation. Never offer such a room for the accommodation of a guest without treating it in the same way, unless it is desired to make him sick.

Feather beds are very unhealthful. They not only undergo a slow decomposition themselves, *thus evolving* foul and poisonous gases, but they

absorb the fetid exhalations from the body which are thrown off during sleep. By constant absorption, the accumulation soon becomes very great, and the feather bed becomes a hot-bed of disease. Hair, cotton, straw, or husk mattresses are greatly superior to feathers from the standpoint of health.

Don't cling to the old feather bed because it is an heir-loom. The older it is, the worse it is. Only think of the amount of diseased germs which must be stowed away in a sack of feathers which has done service during a hundred years or more ! Subject to all the accidents and emergencies of domestic life it has, perhaps, carried a half dozen patients through typhoid fever and pillowed the last months of the gradual dissolution of a consumptive, besides being in constant use the balance of the time.

Privies.—As ordinarily constructed and managed, these necessary institutions are most prolific sources of disease. The animal excretions which are left to accumulate in them undergo still further putrefactive changes, which result in the development of the most pestilential germs and gases. Here is where the terrible typhoid poison originates. Deep vaults should never be allowed under any circumstances.

The best way to manage a privy is this: Early in the spring fill up the old vault, if there is one, even with the surface. Raise the building a little. *Have made at the tin shop a sufficient number of*

pans of thick sheet iron. The pans should be about two feet square and two inches and a half deep. Each should be furnished with a long bail, and a strong handle at one side about a foot in length. In using these pans, fill each half full of fine, dry dirt—not sand—or ashes, and shove it into position, allowing the bail to fall back upon the handle behind. By the addition of a little dry dirt several times a day, all foul odors will be prevented. The contents of the pans ought to be removed every night in the warmest weather of summer, the pans being replaced with a fresh supply of dry earth. During cooler weather, if little used, the pans will require emptying but once a week, if they are kept well supplied with dry earth. The contents of the pans may be buried or removed to a proper place at a distance from any dwelling.

For convenience, it is found to be an excellent plan to hire a scavenger to attend to the pans at regular, stated times. Fifteen or twenty in a community can unite on the same plan, and thus make the expense very slight for each.

About the first of December, the pans may be removed and a shallow vault dug. The vault should not exceed two feet in depth, and it should not be tightly inclosed. This will allow the contents of the vault to freeze. They may be removed several times during the winter, and should be kept covered with dry dirt, which should be procured in sufficient quantity in the *fall*.

Bathing.—From the millions of little pores on the surface of the body there flows a ceaseless stream of impurities. As the moisture evaporates, these are left upon the skin. The requirements of health and cleanliness demand that these should be removed. Once a week, at least, the year round, the whole person should be thoroughly washed with soap and water.

A barrel of water is not required for an efficient bath. A pailful is an abundance. Even a pint will go a good ways toward making a person clean if judiciously applied. A simple air-bath is better than none.

Cold bathing is not recommended. Robust persons may stand it very well, but it is injurious to invalids, and to any one if long continued. The best temperature for most persons is about blood heat.

In the summer time, when perspiration is more free than in winter, the accumulation of dirt upon the skin is much more rapid, and a daily bath is required.

Are not baths weakening? The weakening effect of a simple application of a little water to the surface of the body is not one-tenth as great as that from carrying about constantly a load of dirt upon the skin which not only prevents the elimination of impurities from the blood, but is actually absorbed into the system again. A bath is refreshing, soothing, and strengthening if properly taken.

Poisonous Paper.—Many cases of poisoning, some of which were fatal, have been traced to the arsenic contained in several of the colors of wall-paper. The most dangerous color is green. It is almost impossible to find a green paper which does not contain arsenic. Green window curtains are especially dangerous. The green dust which can be rubbed off from them is deadly poison. In rolling and unrolling the curtain it is thrown into the air and is breathed. The same poison is brushed off the surface of arsenical wall-paper into the air by the rubbing of pictures, garments, etc., which come in contact with it.

It is very easy to test papers of this kind before buying, and it would be wise to always take this precaution. Take a piece of the paper and pour upon it strong aqua ammonia over a saucer. If there is any arsenic present, this will dissolve it. Collect the liquid in a vial or tube and drop in a crystal of nitrate of silver. If there is arsenic present, little yellow crystals will make their appearance about the nitrate of silver. Arsenical green, when washed with aqua ammonia, either changes to blue, or fades.

Poisonous Aniline Colors.—Red flannel, stockings, and hat linings, and the striped stockings which have recently become fashionable, have occasioned serious poisoning in numerous cases. The aniline dyes with which they are colored *are used in connection* with arsenic, which is not

removed by the manufacturers. They should be carefully avoided.

Cosmetics.—The various paints and other preparations which are sold by druggists as means of beautifying the complexion are most pernicious and poisonous articles. None of them can be safely used. We have seen cases of hopeless paralysis occasioned by their use.

Fresh air, sunshine, a wholesome diet, abundant exercise, and daily bathing are the best means of beautifying the complexion. A sallow skin is a pretty sure indication of a torpid liver or dyspepsia, or both. No amount of cosmetics can cure these.

House Cleaning.—The semi-annual house-cleaning, although not a pleasant experience, is just as necessary as the original building of the house. Some important things are often overlooked in the general hurry and confusion.

The closets, garrets, clothes rooms, stairways, and similar places need thorough renovation as well as more conspicuous rooms. The steam and gases from the kitchen find their way into all parts of the house, and are absorbed by the porous walls, or condense upon the wood-work. If not removed, they become sources of disease. The spare bedroom and the parlor must not be neglected on account of having been little used, for the same reason.

Wood boxes are too often neglected until the rubbish at the bottom becomes exceedingly foul,

and occupies so much space that there is little room for anything else. Wet, souring, fermenting bark and chips, decaying apple cores, moldy leather, and similar elements which usually occupy a considerable portion of wood boxes, contribute largely to the production of many febrile diseases.

New wall-paper should never be put on over old. The fresh paste, by its moisture, causes the fermentation of the old paste and the production of foul gases from the colors of the paper and the impurities which have been absorbed. If the old paper contained arsenic, the danger is increased ten fold, as arseniureted hydrogen is formed, one of the most fatal gases known.

Cleansing Sick Rooms.—A room which has been long occupied by a person suffering from chronic disease, or by a fever patient, or a case of small-pox or other contagious disease, ought to be very thoroughly cleansed before being occupied by others. The means by which this may be most efficiently done are these:—

1. Take out the windows and give the greatest possible freedom to ventilation.

2. Remove the old paper from the walls and burn it. Wash the bare walls with a solution of copperas, and then apply whitewash to the ceiling. Cleanse the wood-work with a solution of chloride of lime or carbolic acid.

3. Remove carpets from the floor, the bedding *from the beds*, and every other kind of fabric in

the room, and thoroughly disinfect them before replacing.

4. If still more thorough disinfection is desired, remove from the room such furniture as will be injured by corrosive gases, close the windows tightly, and place in the center of the room a shallow stone or earthen vessel containing the following mixture: 4 oz. each of salt and black oxide of manganese, 3 fl. oz. of water, and $3\frac{1}{2}$ fl. oz. of sulphuric acid, or oil of vitriol. Mix the acid and the water first, let it cool, and then add it to the salt and oxide of manganese, which should be previously intimately mixed in the earthen vessel. Stir well with a stick and then close the room as tightly as possible, stopping up the crevices. Chlorine gas will be slowly formed by this means, and it will destroy whatever organic matter there may be in the room. It will even penetrate the plaster on the walls.

In two or three days the room should be opened and thoroughly ventilated.

Disinfecting Clothing.—Clothing which has been exposed to contamination by contagion, if of little value, should be destroyed. If more valuable, it may be disinfected in any one of several ways.

1. Heat in an oven as hot as possible without scorching, for an hour or two. A temperature of 250° will do no harm.

2. If the clothing is uncolored, or colored with mineral dyes, *soak a few minutes in a solution of fresh chloride of lime. Afterward boil.*

3. Soak for half an hour in boiling water to which carbolic acid has been added in proportion of an ounce to the gallon of water. Boil again in pure soft water, to remove the smell of the acid.

4. Expose for several hours in a close box to the fumes of burning sulphur. Air thoroughly afterward and wash.

Sick-Room Disinfection.—In such diseases as typhoid fever, dysentery, cholera, yellow fever, and diarrhea, the bowel discharges should be instantly disinfected and then removed as soon as possible. To do this readily and promptly, a strong solution of permanganate of potash or copperas should be kept constantly in the chamber vessel. Large vessels of water kept in the room and daily changed will absorb much of the gaseous poison. Carbolic acid, tar, chloride of lime, and most other gases are offensive to the patient and should not be used.

Keep Warm.—Fashionable dress totally disregards every consideration but novelty and display. Fashion loads the shoulders and chests of ladies and girls with warm shawls, cloaks, and furs, surrounds the abdomen with ten to fourteen thicknesses of cloth, and imprisons the hands in an enormous muff, but leaves the limbs and ankles exposed to chilling blasts almost without protection. The limbs actually need more clothing than any other part of the body. They should *be clothed uniformly from the body to the ankles,*

which should be clothed with warm woollen stockings and thick shoes or boots with high tops.

Flannel under-clothing should be worn during all but the hottest months of summer.

Squeezed to Death.—Not long ago a young lady went to bed without removing her corset, as she wished to grow small. When morning came, her friends found her a lifeless corpse. Thousands of young ladies are killing themselves in the same way. They may not die as suddenly, but they are dying as surely.

If any young lady who wears a corset could see the terrible havoc which it makes among her internal organs, she would be ready to desist from so foolish and harmful a practice. If the opportunity were afforded her, she would see her stomach squeezed out of shape and position so as to resemble much more a dog's than a human stomach. She would find her lungs compressed so that the blood could circulate with freedom through only a small portion, while the heart must struggle to its utmost to secure even a partial circulation. The large and small intestines she would find all jammed down into a heap in the lower part of the abdomen, where they do not belong, crowding upon the most delicate organs of her whole body, displacing and otherwise injuring them.

Any young woman who can deliberately commit *all of these assaults* against her physical frame

while knowing the consequences, is guilty of a crime different from that of the suicide only in degree.

Night Air.—A general prejudice exists in the world against night air. In part it is justifiable ; but much of it is unfounded. There is only one kind of air in the night, and that is night air. The air in the house is night air as much as that out of doors. All the air we breathe comes from the outside. If the windows and doors are shut, it crowds in through the cracks and chinks. It makes very little odds, then, whether we breathe night air in-doors, or out of doors, except that it is rather purer in the latter situation. In many localities night air is purer than day air.

FOODS AND DRINKS.

A MAN is made of what he eats. Good food and drink make good blood ; and good blood is manufactured into healthy brains, and strong bones and muscles. Poor food and improper drinks make poor and foul blood, which, in turn, is made into equally poor brains, bones, and muscles.

Those who pay no attention to the character of their food, but hurry into their stomachs indiscriminately, food which is good, bad, and indifferent, are sooner or later admonished by disease and suffering that the way of the transgressor is *hard*, and that nature's laws are inexorable.

America is known abroad as a nation of dyspeptics. This unfortunate condition is the result of the universal disregard of dietetic rules for which our countrymen are notorious. Attention to a few plain principles would save many thousands of lives annually. A large number of the most fatal acute diseases have their chief cause in errors of diet.

Poor Food.—Impoverished food is that which does not contain all the elements of which the body is built up in proper proportion. Perhaps the poorest article of food in common use in this country is fine-flour bread. The miller removes the very best and most nutritious portion of the wheat by the process of bolting; for the gluten which nourishes brain and muscle is deposited around the outside of the grain, just beneath the horny covering, or bran. In the center of the grain is found almost nothing but pure starch, which is so incapable of sustaining life that even a dog will starve to death in a short time if fed upon it exclusively.

Of such material nearly all American bread is made. Most other nations are wiser in this respect than we. The sturdy German eats his black bread made of the whole grain with a keen appetite, and it makes his muscles firm and his sinews strong in spite of the pernicious influence of his favorite lager beer.

Wheat-meal, or graham, bread is incomparably *sweeter, richer, cheaper, and healthier than that*

made of the superfine, bolted, impoverished article.

Condiments.—Every day a hundred thousand dyspeptics sigh and groan in consequence of condiments. Pepper, spice, salt, vinegar, mustard, and all kinds of fats belong to the list of dyspepsia-producing articles known as condiments. All the works on diet define a condiment as an article which adds nothing to the real nutritive value of food. It is simply something which is added to make food taste better. Whether the food does taste better or not does not depend upon the condiment, but upon the taste of the eater. If his taste is unperturbed, he likes food best without condiments. If his taste is perverted, he may like almost any kind of unnatural combination. A Frenchman is as fond of assafoetida in his food as an American is of salt, or an East Indian of curry powder.

Condiments are innutritious and irritating. They induce a heated condition of the system, which is very unfavorable to health. They clog the liver, imposing upon it a great addition to its rightful task. Worst of all, they irritate the digestive organs, impairing their tone and deranging their function. A little practice soon accustoms a person to the disuse of condiments, and he learns to relish his food better without than with them.

Vegetable vs. Animal Food.—It is a *mistaken opinion* that flesh food is necessary to

maintain human life. This is abundantly proven by numerous facts which are drawn from the anatomy of man and the lower animals, human and comparative physiology, and the experience of the human race from Adam's time to our own.

Flesh food is not necessary to sustain either mental and physical vigor, or animal heat. It contains no nutrient element not found in vegetables. In fact, eating flesh is only taking vegetables at second hand, for all animals subsist upon vegetables.

On the other hand, the use of meat is unfavorable to longevity. Flesh food is stimulating. It contains venous blood, which is filled with such poisons as urea, uric acid, and cholesterin, with many others, which would have been removed by the kidneys and liver of the animal had it lived. It is also liable to contain the products and germs of disease, for few animals are perfectly healthy when killed, and many are in a condition of gross disease, being only hindered from dying a natural death by the intervention of the butcher's knife.

Animal food will sustain life; it will nourish the body; but it is not the best food. Science shows that it is not the natural food of man, and history testifies that the bravest and noblest nations of antiquity subsisted for ages without it.

Thousands of people have investigated this subject during the last twenty years, have become convinced that animal food was inferior to *vegetable food*, and have renounced the use of

the former with the most excellent results. Reader, investigate, and then try it for yourself.

Poisonous Water.—Whole communities have been stricken with disease at once by what seemed a very mysterious cause. Investigation traced the origin to the water supply. Further investigation proved that the original sources was some sewer or privy which communicated with the water supply. This is known to be one of the greatest causes of typhoid fever.

The water of wells is often rendered poisonous by receiving the drainage of barnyards and vaults. Sometimes matter of this character will be conducted many feet under ground in a pervious soil, by percolation.

Water from a barnyard well or cistern should never be used. No vault or cess-pool should be within fifty feet of a well.

The Filthy Hog.—The hog is a scavenger by nature. His organization indicates it, for he has a regular system of sewers running all through his body and discharging on the inside of his fore legs, the express object of which is to convey away the filth with which his body teems.

The process of fattening hogs is one of disease. A fat hog is one which is grossly diseased. That this is the case is shown by the condition of the liver. The livers of all fat hogs are masses of disease. Every butcher will tell you that he finds not more than one liver in twenty among *fat hogs* which is not crowded with abscesses

filled with pus. Every organ of the body is diseased in consequence.

Tape-Worm.—This loathsome creature, which sometimes gets into a human stomach and intestines, and grows there to the enormous length of several rods, is communicated to man by eating pork. The occurrence of tape-worm is becoming much more frequent in this country than formerly, owing to the free use of pork.

Trichinæ.—Still more to be dreaded by pork-eaters are the terrible trichinæ, which are also communicated by the eating of pork. Each worm is so small that several hundred thousand of them may occupy a single cubic inch of pork. When taken into the body, a single worm produces ten young, which at once commence boring into the body in every direction, lodging at last in the muscles. The pain and general disturbance of the system is so great that few constitutions can survive the terrible ordeal. If life is not destroyed at once, the individual lingers along, a sufferer for life, his body filled with disgusting worms for which there is no remedy.

No cure for the disease has been discovered. About one hog in every ten is affected by the disease. No more than one in ten of the deaths from this cause are attributed to it, as the disease may appear like many others, resembling cholera, dysentery, typhoid fever, cerebro-spinal meningitis, and rheumatism. No pork is safe.

Milk from Stabled Cows.—Milk is not the best food, because it contains the impurities of the blood of the animal from which it is taken. If the animal's blood be pure, the milk is proportionately good; if it is impure, the milk must be likewise affected.

When cows are confined in a close stall, they breathe over and over the same foul air, which is always loaded with filthy vapors from their own excreta. These vapors enter the blood and poison every tissue and every secretion. The inhaled impurities make their appearance in the milk also, which thus becomes a means of excretion. If it is eaten, the filthy impurities of the stable are taken with it.

Catching Consumption.—French experimenters have ascertained that cows are very liable to consumption, and that the tubercle of this disease may be communicated either by eating the flesh or the milk of affected animals. This will account in part for some of the cases of "quick consumption;" for it is observed that when the disease is communicated in this way its progress is much more rapid than under other circumstances. When milk is used, the greatest care should be taken to obtain it from healthy animals.

Lead Water Pipes.—This is another of the numerous sources of poisoning to which we are exposed. If water passes through lead pipes, it *is sure to dissolve* some of the lead, which is a

dangerous poison when taken into the body, producing colic, paralysis, and a variety of other diseases. Hard water will be poisoned as well as soft water, though less readily. Never use lead pipe for conducting water to be used in cooking or for drinking. If the water is conducted from a main pipe in a short lead pipe, the danger may be averted by allowing the water to run, before using, long enough to remove from the pipe what has been standing in it, as this will contain many times as much lead as that which merely passes rapidly through.

The Use of Fruits.—Fruits are wholesome the year round, and should be more largely eaten. Ripe fruits are not productive of bowel diseases, as commonly supposed; fruit is one of the best remedies for dysentery. Fruits and nuts should be eaten with the meal, as a part of it.

Adulterated Sirups.—It is now becoming pretty generally known that the articles sold by grocers as “golden drip,” “silver drip,” etc., are largely spurious. It is difficult to find a pure or genuine article. Instead of being made of cane sugar, as they should be, they are mostly—sometimes wholly—composed of a kind of sugar made by boiling together starch, rags, sawdust or shavings, and sulphuric acid, or oil of vitriol.

So much of the acid is left in the sirup that it will sometimes corrode the cork of a jug. Its effect upon the human stomach is most *mischievous*.

In the manufacture, the sirup is boiled in iron pans. The acid dissolves a considerable quantity of the iron, so that it is also found in the sirup. It is very easy to prove its presence and thus prove the spurious character of the sirup. Into half a cup of strong tea, to which no milk has been added, put a teaspoonful of the sirup. If the tea becomes black, the sirup is bogus, no matter how earnestly the merchant may protest to the contrary. Reject it.

Cheap sugars are sometimes adulterated also. Test them in the same way.

Tea and Coffee.—Few that use these beverages are aware that they are daily poisoning themselves by so doing, but it is a fact. Tea contains a poison called theine; coffee contains the same under the name of caffeine. The amount of this poison contained in a few ounces of tea would suffice to kill a man.

By reason of the action of the vital organs against this poison, tea and coffee are stimulating, which is only another name for poisoning. Their effect upon the nerves is very injurious. They are a great cause of sleeplessness, nervousness, dyspepsia, and torpid livers. People sometimes even become tea-drunkards. The less of them that is used, the better.

Hard Water.—Water containing lime and other mineral matters is productive of several very painful diseases. Avoid its use. Soft water can always be obtained at certain times, and

preserved in cisterns. Such water is only fit for use after filtering. (See directions for making a filter.) Boiling hard water removes a portion of the lime. Filtration does not purify it.

Iced Water.—Copious draughts of iced water are very injurious. In the summer time especially, iced water is harmful on account of the sudden cooling of the internal organs which it induces. If drank at all, it should only be in small sips and very slowly.

Eating Between Meals.—The stomach requires rest as well as the brain or the muscles. If food is eaten at other times than at meals, it is kept constantly at work. From three to six hours are required to digest most articles of food ; hence, if food is taken again within five or six hours after eating, the stomach is kept incessantly employed, and becomes exhausted. When the next meal is taken, it is unprepared to receive it, and indigestion with its myriad train of ills results. Late suppers are suicidal. Never eat within five hours of retiring.

Hasty Eating.—Americans are proverbial for hasty eating. The student swallows his food unmasticated, and hastens back to his books. The merchant bolts his meal to save time for business. The glutton eats as fast as ever he can to keep pace with his neighbors and get his full share.

It is not enough to fill the stomach with food. Digestion begins in the mouth ; and unless the *mouth does its share* of the work, the stomach is

required to do a double portion. When the food is sent down into the stomach in lumps, the abused organ does its best to digest it, but fails, because it has no means for grinding food. The mill is in the mouth, and mastication, if done at all, must be done there. The gastric juice cannot act upon solid food, and allows it to go undigested. Fermentation ensues, and dyspepsia, dysentery, cholera morbus, and a dozen other diseases result.

Eight ounces of food, well masticated, will afford as much nourishment to the body as a pound hastily bolted.

Alcoholic Drinks.—No well man can habitually use wine, beer, brandy, or any other alcoholic drink, without becoming diseased. Ninety-nine sick people are killed by alcohol to one that is cured by it. It kills both well and sick people. It is good for nothing as a food, and worse than nothing as a medicine. Old people do not require it any more than young persons. Indeed, it is far more dangerous for old than young, because it endangers them to apoplexy.

Moderate drinking is a skillful trick of the old serpent to lead men to drunkard's graves.

Any quantity of alcohol intoxicates. Intoxication is poisoning. A little alcohol intoxicates a little; a larger quantity intoxicates a good deal. The moderate drinker, no matter how small his libations, only differs from the gutter toper in degree.

THE HYGIENIC SYSTEM.

THE "hygienic system," or "health reform," as it is sometimes called, is very little understood outside of the ranks of its adherents. The majority of people believe it to be a "horrid" doctrine which teaches all manner of absurdities, such as "starvation diet," "bran-bread diet," "cold-water cure," and similar notions.

Some people entertain a still more discreditable opinion of it. When President White, of Cornell University, was performing his duties as a member of a committee to examine the health commissioners of New York with reference to their fitness for their office, he asked one of them to define hygienic. "Hi-jin-nicks," said the commissioner, "is a bad smell arising from dirty water"!

All this popular prejudice and misunderstanding is found, by a little examination, to be founded in sheer ignorance of the real teachings of this system. Hygienic doctrines have the support of both science and common sense. Nearly every new discovery in physiology confirms the teachings of this system.

"Water cure," "hydropathy," and "vegetarianism" are epithets which are in no way applicable to the hygienic system. Those terms are justly applied to certain specialists, who are not proper representatives of health reformers, or hygienists in general. Like every other great reform, it

numbers among its professed adherents, extremists, fanatics, enthusiasts, quacks, tyros, and pretenders. These, also, must not be taken as representative hygienists. The public are often unable to discriminate between genuine reformers and pretenders, and the whole system is thus brought into disrepute.

Health reform requires a man to sacrifice nothing but those things which are of positive injury to him. It takes from him no real pleasure, and deprives him of no real good. It only corrects his bad habits and educates him in good ones. It shows him the depravity of his nature, and restores him to right relations with life. It enables him to appreciate pleasures of which he was formerly unconscious. It cleanses his body, frees his mind, unfetters his soul, and sharpens his senses.

To those to whom this subject is new, we would say, Investigate it candidly and thoroughly; then you will be prepared to judge of its merits.

HEALTH.

SOUND physical health is as rare as it is valuable; so rare, indeed, that a learned doctor in Buffalo declares that health is unnatural to man, disease being his normal condition. Not being ready to believe the race so hopelessly depraved as this, we are unwilling to accept the doctor's *theory*. Yet he has considerable grounds upon

which to base his argument. According to the annual reports of "vital statistics," three-fourths of the whole population are sick every year. Of twenty-eight persons sick, one dies. Disease, then, is certainly more common than health. The "statistics" referred to take no account of the thousand and one ailments that make life miserable, and are certainly great departures from the standard of health, though not reckoned as serious illnesses.

Health, rosy and robust, is the natural condition of the human family. Sin and sickness—the words are nearly synonymous—are both the result of transgression. Sin is the transgression of law—either moral or physical. Sickness is the penalty of physical transgression.

How can *I* be healthy? says the gouty man; and how *can* I enjoy health? says the petulant dyspeptic.

How did the gouty man come by his disease? He has filled his blood with irritating wines and stimulating food until his joints have become stiffened, enlarged, and inflamed. Would he recover, he must discard his port, and sherry, and champagne, and fare plainly.

How did the dyspeptic arrive at his sorry condition? He lived the life of an epicure, tickling his palate with savory viands made tempting by unwholesome condiments; or perhaps, more temperate, he only took his meals irregularly, and at unseasonable hours, or violated otherwise the *laws which regulate* digestion, thus wearing out

with ceaseless toil that faithful slave, the stomach. Would he have health, he must renounce his dainty tidbits, midnight feasts, and gormandizing. Plain, frugal, regular, and wholesome must be his diet.

Health may be retained, or, when lost, regained, by *obedience to the laws of life*.

Disease is only the penalty which is inflicted for the transgression of the laws of life.

Obey, and live; disobey, and die.

DRUGS KILL—NATURE CURES.

TWENTY years ago, when a man had a fever the doctors thought he had too much vitality—too much life—and so they bled him, and purged him, and poisoned him with calomel, and blue mass, and sundry other poisons, for the purpose of taking away from him a part of his vitality—his life—in other words, killing him a little. If a man was extraordinarily tough, he survived in spite of the killative influence of both disease and doctors; the doctors got the credit of having barely saved his life by their consummate skill, when the fact in the case was that his recovery was wholly due to his strength of constitution. If the patient happened to be less hardy, he died. Then the doctors and friends consoled themselves with the thought that they had done all they could, given all the medicines (drugs and poisons) *they knew* the names of, and wondered at the *mysterious (?)* dealings of Providence

After a time a great doctor thought he had discovered that a fever was a *want* of vitality, and that bleeding and purging was what made so many fever patients die. He announced his discovery to the world, and the doctors stopped bleeding, and purging, and salivating, and began dosing their patients with brandy, wine, and other stimulants, with a view to increase their vitality by so doing.

The result remained the same, much to the astonishment of the savants of medical lore, who found no explanation of the difficulty except in the hypothesis that fevers had totally changed their character.

After a few years, another great doctor announced that brandy and milk was a sovereign remedy for fever, for more patients got well who took milk with their brandy than those who took the brandy alone.

Pretty soon another doctor found that water and brandy—water outside and inside, in the form of drink and baths—was a still better remedy.

Numerous physicians adopted the brandy-and-milk cure, found it superior to the brandy cure alone, and extolled it to the skies. Pretty soon an observing practitioner discovered that milk alone was a better remedy than milk and brandy, since a larger percentage of patients recovered under that mode of treatment than under the brandy system. "Milk Cure" for fever then *attracted great attention for a time.*

German physicians, experimenting with the brandy-water method, became convinced that this method was a little in advance of the milk-and-brandy mode, and finally discovered that *water alone* was still better than any of the other plans of treatment. Then came the announcement that "water cure" was the best remedy for fevers. And so, from bleeding, purging, depleting, and salivating, we have come to simple water. In former times, the mortality was fearful. Under the new treatment, it is very small. What makes the difference?

Under the old plan, a man was bled, physicked, and poisoned with mercury and other drugs, and was compelled to lie with parched lips, swollen tongue, and a burning skin—consumed by the fierce fever fire within, the hot blood rushing through his veins like molten lead, drying up the vital fluids and making his quick breath like the blast from a furnace—but no cooling draught to quench his torturing thirst, moisten his parched lips, and thin his thickened blood; no water to lave his throbbing brow or cool his burning skin; no pure, fresh, invigorating air to breathe—for an open window would be certain death!—and smothered under heavy blankets, quilts, and feather beds.

Is it any wonder that few patients could survive the ordeal of such a plan of treatment? Nature did her best to cure, art (unwittingly, *perhaps*) did its best to kill.

Under the stimulus of brandy, wine, and kin-

dred drugs, about the same number of patients died. What else could be expected when the call for drink was only answered by such fiery beverages as brandy, rum, and other alcoholic liquors?

Brandy and milk was better. Milk is food; brandy is poison. A pint of food and a pint of poison are certainly preferable to two pints of poison. Less poison, fewer deaths.

Brandy and water was better yet. Water to quench the consuming thirst and cool the feverish skin, with one-half as much poison and no bleeding—still less patients were killed. More patients recovered *in spite* of the poison.

Milk alone proved still better. Nutritious food and *no* poison ought to be better than equal quantities of food and poison. Even sour milk, or buttermilk, or even whey, was better than brandy. The majority recovered. Nature was neither aided nor hindered very much.

Water alone, within and without, in abundance, hot, cold, or tepid, to suit the patient's feelings, proved just the thing. Nature was not only not hindered, but was aided. The fever fire was quenched, and the skin was cooled. Fresh air and pure water were nature's best assistants. They did not *cure*, they only helped nature and gave her a chance to do her work. Nearly all the patients got well.

The same principles are true in other diseases. Nature's remedies are the best. Drugs are poi

sons. They cannot cure *patients*. They cure one *disease* by producing another.

Do physicians generally know this? Yes; they must, for the most eminent medical authors teach the doctrine, and many eminent German practitioners are beginning to practice it. Why, then, don't our physicians generally treat their patients in accordance with the better way? We dislike to say it, but we fear that many are too indolent. It is so much easier to administer a dover's powder than a wet-sheet pack—so much more convenient to carry a pill-box than a bath-tub.

Every man should learn to be his own physician. Every woman ought to know how to treat herself and her children in all ordinary cases.

The best way of all is to learn to keep well by doing right; that is, obeying nature's laws.

Strange Indeed!—"You have lost your baby, I hear," said one gentleman to another. "Yes; poor little thing! it was only five months old. We did all we could for it. We had four doctors, blistered its head and feet, put mustard poultices all over it, gave it nine calomel powders, leeches its temples, had it bled, gave it all kinds of medicines, and yet, after a week's illness, it died!"

SIMPLE REMEDIES FOR COMMON DISEASES.

NINETY-NINE out of a hundred of all the cases of illness which are constantly occurring in nearly every family are of such a character that they can be treated by any intelligent mother quite as well as, or even better than, the doctor. Again, the necessary trouble of going for a physician for every trifling ailment, besides the useless expense in fees which it occasions, are weighty considerations. Important cases demand medical advice; but every parent ought to be sufficiently well informed to be able to attend promptly and efficiently to the great majority of the ailments to which all families are liable.

If children are properly clothed and fed, allowed plenty of exercise, fresh air, and sleep, they will be seldom ill. The same is equally true of grown people. Accidents, exposures, and indiscretions will occur, however, resulting in various ailments. If the simple directions given for treating some of the more common diseases are carefully followed, much trouble, expense, and suffering may be avoided. No drugs are recommended for internal use because the cases in which *they are really needed* are so exceptional-

ly rare that none but physicians should deal with them ; the less the better, in any case. Drugs do not cure.

Colds.—Tommy, or Mary, or baby, or some other one of the children, or the family, has “caught a hard cold ;” what shall we do ? Do nothing, and let it wear off ?

No ; perhaps he will get well, may be his cold will become something worse.

Shall we give him ginger tea, red pepper, brandy sling, onion sirup, honey and lard, fat pork, castor-oil, licorice, hoarhound, molasses candy, boneset, catnip, mullen tea, or pennyroyal ? or shall we apply a mustard plaster to his chest, a blister to the bottom of each foot, and fat pork with salt and pepper to his throat ?

Do no such thing. Such trash put into his stomach, with such irritating applications outside would make a well person sick. Now do this :—

In the first place, prevent the cold, if possible, by beginning in season. Perhaps the feet have been wet, and are damp and cold. Pull off the shoes or boots and stockings, and put the feet into a pail of water as hot as can well be borne, after first wetting the head with cool water. After fifteen minutes soaking, pour a little cold water into the pail. Allow the feet to remain two or three minutes longer, then take out, wipe dry every part, between the toes and around the ankles, and then rub them until they glow with *warmth*. Put on dry, warm stockings, and send

the patient to bed for an hour, or all night if it is evening. Instead of waking up in the morning with a headache, a sore throat, and a voice like a cracked fiddle, he will be quite well.

If a person has really got a cold, and is sneezing, and wheezing, and coughing, and expectorating, more thorough measures must be taken.

1. Eat little or nothing for a day or two. The popular adage, "Stuff a cold and starve a fever," is without foundation. A cold is a fever—a *heat*, really, rather than a *cold*, if temperature be considered.

2. Rest. Sleep all that is possible. No time is lost in such a course. Timely rest may save serious illness.

3. Take some kind of hot bath, which will start the perspiration freely. Long sweating is debilitating, only start the action of the skin. The foot-bath combined with the sitz-bath, the wet-sheet pack, the vapor-bath, and the hot-air bath are alike suitable. These are severally described in this work. After the bath, go to bed.

Drink freely of water, the purer the better.

A day or two of such treatment will usually "break" the hardest cold, saving the patient several weeks of pain and annoyance, if not from chronic disease. Try it. The trouble is less than you think; and the results are splendid.

Frequent bathing in tepid water makes a person less liable to colds.

Sore Throat.—There are many remedies for sore throat, some of which are harmless, being simply worthless—like goose oil applied externally—while others are quite injurious. The remedy used by the Germans—and many sensible Americans—is the best. If it is a case of simple sore throat, make, alternately, hot and cold applications, according to directions given elsewhere. If there is fever, cool the skin with sponge baths. Keep the feet warm. If there are symptoms of diphtheria, apply ice in a bag to the outside of the neck, and give the patient little pieces of ice to swallow. Lemon juice applied to the pharynx with a swab is sometimes a good remedy.

Hoarseness.—All the sirups, expectorants, cough mixtures, anodynes, and inhalations ever invented or advertised will not cure hoarseness. They may sometimes destroy the sensibility of the nerves of the diseased part, and so relieve cough, but they cannot remove the disease. Honey, loaf sugar, and all such articles are very deceptive remedies. Cough lozenges and candy, troches, etc., are equally useless. They do not come in contact with the diseased surfaces, as many suppose. They pass directly down into the stomach, where they occasion much disturbance, disordering digestion, and so producing a disease really worse than the one they were intended to cure.

If the disease has not become chronic, it may

usually be relieved by bathing the throat and neck in cool water, applying heat and cold alternately, and wearing a wet bandage around the neck nights. If the difficulty is of long standing, a physician's care is needed.

Headache.—Pain in the head is caused either by too much or too little blood. If the pulse is high and the head hot, while the feet are cold, apply cold to the head and put the feet in a hot bath. A sitz-bath and foot-bath combined will be necessary in severe cases. If the cold application does not give speedy relief, apply hot fomentations for a half hour, unless relief is sooner obtained, renewing the application every four or five minutes. Apply a tepid compress last.

Sometimes headache is caused by undigested food in the stomach. In such cases a warm-water emetic is needed. If accompanied by cramp in the stomach, apply fomentations over that organ also. Sick headache nearly always requires hot applications.

Burns and Scalds.—Apply at once light cloths dipped in cool or tepid water, or immerse the part in water. When the pain is somewhat relieved, apply pure lard or sweet oil. One of the best preparations is sweet oil to which carbolic acid has been added in proportion of one part to twenty. It may be applied by means of a saturated cotton or linen cloth laid over the part. If the burn has not destroyed much of the *skin*, prompt relief will usually be obtained by

covering the part with the white of egg applied with a soft brush. Apply a second coat when the first dries. Deep burns should be poulticed after the pain has been somewhat relieved by the application of cool wet cloths; as they will be attended with sloughing and discharge of pus.

Alum water and carron oil (a mixture of lime water and linseed oil) are favorite remedies with some. (See "Accidents" for further information.)

Chilblains.—This troublesome affection, though seemingly insignificant, often makes existence almost a burden by its constant irritation. It is easily cured, but not by the application of any sort of salve, ointment, liniment, or quack nostrum, no matter how highly recommended.

Just before retiring, prepare two vessels for a foot-bath. Place in one, water as hot as can be borne, and in the other, very cold water. Place the feet first in the hot water for two minutes, then in the cold water for the same time. Alternate thus four or five times, merely dipping the feet in the cold water the last time, and then wiping them dry. Repeat this treatment every night until the cure is effected. Improvement will begin at once.

Wear thin cotton stockings inside the woolen ones, and avoid exposing the feet to severe cold until they are well. A general bath twice a week is necessary. (See article on freezing for preventive of chilblain.)

Pain.—Acute pain is usually due either to inflammation or neuralgia. Hot applications are nearly always the most grateful, and the most successful of any local remedy. Plasters, liniment, and leeches are seldom if ever useful. Blisters are wholly unnecessary, and are always harmful. The most judicious physicians have wholly discarded them. Sometimes cold applications are the most grateful and efficient. The patient's feelings will determine which is to be employed. The hot foot-bath, or the foot-bath and sitz-bath combined, is sometimes necessary in addition to local measures.

Faceache.—Pain in the face is generally of a neuralgiac character. Frequently it originates in a diseased tooth. Make hot applications in any of the several ways described in the article on "Hot Applications." Cold applications are occasionally best. The foot-bath, sitz-bath, and abstinence from food are useful auxiliaries of treatment. When due to constitutional causes, as the use of tea, coffee, tobacco, or liquor, or to an impoverished condition of the blood and general derangement of the nerves, the disease is very obstinate and requires constitutional treatment.

Toothache.—This painful affection is often closely connected with faceache. It may be due to a decayed or ulcerated tooth, or to disease of the dental nerve. Apply the same remedies as directed for faceache. In addition, apply half of a *steamed fig* (hot) to the diseased tooth. A bit

of cotton saturated with laudanum or creosote, and crowded into the cavity of a carious tooth, will often give speedy relief. The only proper and permanent remedy when the tooth is decayed, is to have it filled or extracted. It should be filled, if possible.

Earache.—Hot applications, or the prolonged hot douche, applied with the fountain syringe, will often give relief. A hot poultice, continually applied, and frequently changed, is a good remedy. Half a boiled or roasted onion, bound upon the ear, will sometimes give relief. No remedy is infallible. The hot foot-bath and sitz-bath are excellent remedies. If an abscess is forming in the outer ear, the pain will continue until it opens, or is lanced. A few drops of laudanum placed in the ear give relief in some cases, and can do no harm. A still better application is obtained by evaporating the alcohol from a teaspoonful of laudanum and mixing the residue with half a teaspoonful of sweet oil or glycerine. Incline the head and pour a few drops of this into the ear. Such applications give relief only by deadening the sensibility of the nerves and not by removing the cause of the difficulty. Hence, they should be employed, if at all, only in connection with other remedies.

Rheumatism.—Inflammatory rheumatism requires the attendance of an experienced person. The wandering pains from which many people

suffer, which are commonly called rheumatism, can be relieved by proper attention.

1. Avoid the use of irritating condiments, tea, coffee, tobacco, and alcoholic liquors, including wine, beer, etc. Avoid, also, gross food, and the use of food or drink containing saline matters. Be temperate in all things.

2. Dress warmly and uniformly. Silk or buckskin under-suits, worn next the cotton under-clothing, give great relief to many. Wear flannel the whole year.

3. Apply heat to the painful parts as in neuralgia. The hot-air and vapor-baths are good. Keep the skin clean. Exercise freely.

Colic.—The usual causes are indigestion and constipation. Administer a copious enema to secure a free passage from the bowels. Apply dry, hot cloths or hot fomentations over the abdomen. Percuss and knead the abdomen gently, to promote action of the bowels. Hot drinks do very little good, and usually as little harm. For an infant, fold a thick woolen blanket. Wet one end in as hot water as can be borne. Wring it so that it will not drip, and apply the wet end over the abdomen of the child, wrapping the remainder around its body. It is often surprising to mark the almost instantaneous relief which follows. The applications must be *hot*, not simply warm, and must be renewed every five or ten minutes until relief is obtained.

Nearly all abdominal pains may be relieved in the same way.

Convulsions.—The convulsions of children—commonly called spasms, or fits—are usually due either to worms or indigestion, unless they occur in the course of some acute disease. Place the child at once in a hot bath, disturbing it as little as possible. It will usually recover in a few minutes. When sufficiently recovered, administer an enema to free the bowels, and keep it perfectly quiet. Some advise the cold bath, and practice it with good success. The patient should be rubbed vigorously during the cold bath.

Epileptic convulsions require more than simple domestic treatment. The most that can be done for the patient during the fit is to prevent him from injuring himself or others. The lips and tongue are often severely bitten by the spasmodic action of the muscles of the jaws closing the teeth together upon them. This may be prevented by placing a piece of soft wood or other material between the teeth at the beginning of the fit. As the patient usually sleeps some time after the fit, the brief interval of consciousness which immediately follows it should be occupied in getting him into a comfortable position.

Hysterics.—This peculiar disease is most common in women, though sometimes observed *in men*. It is a real disease, and should be *treated as such*. The symptoms are almost as various

as the cases. It may simulate any disease. Place the patient upon a sofa, beside which a large vessel is placed. Hold the head of the patient over the vessel, and pour cold water upon it from a pitcher held a few feet above. Apply at the same time cold to the chest and spine, and hot bricks or bottles to the feet. This treatment may be continued for an hour or two without injury if the patient does not recover sooner. Speedy relief is usually secured. If the patient becomes quite chilly, apply warm cloths to the chest and shoulders.

Apoplexy.—If a person falls suddenly and is found with a full pulse, throbbing temples, flushed face, and breathing hard, he has apoplexy. Loosen every constriction about the throat at once, elevate the head, secure fresh air, bare the chest, and pour cold water upon the head. See that the extremities are warm. Call a physician as soon as possible. Do not bleed, nor give brandy, ammonia, nor any other stimulant. Apoplectic convulsions are quite rare. They generally occur in sedentary people of full habit, in advanced life.

Fainting.—When a person faints, the heart nearly ceases its action, the action of the lungs is nearly or quite suspended, the face becomes pale, and partial or complete unconsciousness ensues. If the person has fallen, do not elevate the head, but be careful to keep it as low as, or lower than, the rest of the body. If the patient is sitting in

a chair, step behind him, grasp the chair at the sides, and carefully tip it back until the head touches the floor. This alone will suffice in many cases. If the patient does not immediately revive, loosen the clothing about the neck, chest, and abdomen; sprinkle cold water in the face; slap the surface of the body with the hand or a slipper; apply an ammonia bottle, camphor, or any other pungent odor to the nostrils; secure abundant cool, fresh air, and use artificial respiration. If the patient can swallow, give very hot or very cold drinks.

A person who is subject to syncope should lie down at once when he first feels faint.

Croup.—If the child can speak aloud, the disease is of the spasmodic variety, and he will probably recover with a little attention; but if he can only whisper, and the disease has come on somewhat gradually, it is a much more serious variety—true croup—and a physician should be called at once.

Apply, alternately, hot and cold cloths to the throat and neck for a half hour, then apply cold continuously for half an hour, then foment again. Give a hot bath, and keep the limbs and extremities warm. Give no emetics, expectorants, stimulants, nor anodynes; all are harmful. Goose oil on the outside does no more good than ipecac inside. Give the child an abundance of fresh air. If the case is one of true croup, the inhalation of *steam* is one of the best remedies.

Measles.—Ordinary cases require little more than care and good nursing. The comfort of the patient is greatly increased by frequent tepid sponge-baths or packs. If the irruption does not appear promptly, or is repelled, put the patient into a hot pack, with a woollen sheet, for thirty minutes. Keep the head constantly wet with cool water, and bathe the face every few minutes when there is considerable fever. If the throat is sore, give treatment for sore throat as already described. Give the patient abundance of fresh air, but do not expose him to draughts. The diet should be as simple as possible, and very light. Slings, teas, sirups, and other medicinal agents are not required in this disease.

Scarlet Fever.—This disease may be treated essentially in the same manner as measles. The sponge-bath should be administered several times a day. Keep the bowels free by enemas.

Fevers.—Simple fevers may be treated in accordance with the directions for measles and scarlet fever. If complications occur, as pleurisy, lung fever, or other affections, a physician should be consulted.

Mumps.—This common affection needs little more than careful nursing. A spare diet, rest, and a daily warm bath facilitate recovery. If the diseased parts are very painful, treat as for sore throat. Keep the feet warm. If the breasts or testicles become inflamed, apply ice or *alternate hot and cold* cloths.

Whooping Cough.—No method of treatment will *cure* this disease. The patient gets well of himself in due time in ordinary cases, if he is not dosed with sickening, poisonous drugs, teas, sirups, expectorants, cough mixtures, and emetics. Good care, plenty of fresh air, a warm bath three or four times a week, and a plain, nourishing diet are the best means to secure a speedy recovery.

Worms.—Various kinds of worms infest the human body. Children are particularly liable to them. For the small worms which are found in the rectum, perfect cleanliness, regularity of the bowels, daily enemas of salt water, and anointing the anus with sweet oil are the best remedies. Indigestion and constipation are the chief causes.

Tape-worm and the large round worm require more energetic measures of treatment. For the first, the best remedy known is the seed of the common pumpkin. Take two ounces of *fresh seeds*, remove the shells, and beat them to a paste with an equal quantity of finely pulverized white sugar. Add a little milk or water, and take at one dose after fasting twenty-four hours. After three hours, take a tablespoonful of castor oil. If this does not dislodge the worm, there probably is none. Many people imagine they have tape-worm when they have not. For a child, the dose should be about one-half that for an adult. ~~The~~ fluid extract of the seeds can be obtained at the stores, the dose of which is half a fluid ounce. *For the round worms, worm seed, chenopodium,*

is one of the best remedies. To a child two or three years old give half a dram of the seed in sirup or honey, night and morning, for three or four days in succession. After the last dose, give a teaspoonful of castor oil. Five or ten drops of the oil may be given with sugar in place of the seed.

Constipation.—Torpidity of the large intestine is a condition very common among sedentary people, especially women. It is the result, in part, of eating fine-flour bread and irritating condiments. One of the greatest causes—the chief, perhaps—is neglect to attend promptly to the calls of nature. When the feces are retained in the rectum, they become hard and dry through the absorption of their fluid portion. Thus a considerable part of this foul matter is taken into the system, permeating every fluid and tainting every tissue. The dry, hard residue becomes packed in the intestine, and makes defecation difficult, and is productive of several serious diseases of the bowels and other abdominal organs.

Nothing could be more injurious than the use of purgatives as remedies for this difficulty. No matter under what form or name they are taken, they always aggravate the disease in the end, though they seem to give temporary relief. Besides, these “aperients,” “laxatives,” “purgative pellets,” and “cathartics” are the most potent causes of dyspepsia. To cure the difficulty do this:—

1. Exercise plentifully and regularly in the open air.

2. Eat no bolted flour. Instead, eat wheat meal or graham flour, oatmeal, rye, barley, crushed wheat, etc. Eat plenty of fruit, sparingly of milk, sugar, and condiments. Discard hot drinks at meals. Knead and percuss the abdomen gently for half an hour each day, or five minutes at a time, and several times a day. By regularity in habits, accustom the bowels to move at a certain hour each day. Secure an action of the bowels at least once each day, if possible, but do not resort to the continued use of the enema to effect it. Drink a glass of cold water half an hour before breakfast, if it does not disagree with the stomach.

Piles.—This malady is simply a result of the preceding one. It usually disappears when its cause is removed. Sometimes, however, the tumors which are formed have to be excised. Ointments seldom do any good. The numerous “infallible cures” advertised, are frauds. Cool bathing of the parts, cleanliness, and the injection of cool water are among the best remedies.

Cold Feet.—Cold feet are due to deficient circulation. Administer the alternate hot-and-cold foot-bath as directed for chilblains, several times a day, if possible; at least, twice a day. Wear large, thick boots or shoes, and thick woolen stockings. Keep the feet dry. Exercise. *Allow no constriction about the limbs, as garters*

or elastics. Clothe the upper portions of the limbs warmly. Do not wear rubbers except for a little while at a time when necessary. Electric or galvanic soles are of no use whatever. The feet should be kept perfectly clean, and the stockings should be changed every day, being allowed to air one day, when they may be worn again. Three changes a week are none too many for cleanliness and warmth. Cork soles are useful.

Heart-burn.—This unpleasant affection has nothing to do with the heart. It is the result of fermentation of the food, which produces irritating acids. These are thrown up into the mouth, producing a burning sensation. A few sips of hot or cold water will commonly give relief.

Sometimes a warm-water emetic is required. Soda and magnesia, which are so often used, are productive of a vast amount of mischief. They never cure, but increase the real disease, and sometimes cause fatal injury to the stomach and intestines.

Crick in the Back.—This curious malady is sometimes relieved as quickly as produced, by stretching the back by bending backward across a log or fence. Hot fomentations, with vigorous rubbing, usually give relief quite readily.

Stitch in the Side.—This difficulty is of the same character as the preceding. Hot applications usually give prompt relief. A tight flannel bandage should be worn about the trunk after the *fomentation* has been given.

Lumbago.—Alternate hot and cold applications followed by thorough rubbing and percussion are the best local applications. Systemic treatment and attention to the general health are also required.

Biliousness.—Every spring the regular doctors, and the quack doctors, and all the drug fraternity reap a rich harvest from the numerous multitudes who seek to be cured of biliousness by purgatives, alteratives, “blood purifiers” and “anti-bilious pills.” This is one of the great popular delusions upon which charlatans and druggists fatten. The ill feelings which are interpreted to mean too much bile, really mean, too much fat pork, too much sugar, too much grease, too much mince pie, too much cake and preserves, too much fried sausage; in fact, too much of all kinds of food, whether good or bad. April and May bring the penalty of the transgressions of the winter months. Flagrant outrages against nature in the matter of food and drink are often seemingly borne with impunity during the cold months; but if the same line of conduct is extended into the warmer months, all the symptoms of “biliousness” appear.

The proper cure for “biliousness” is, first, Abstinence for a day or two until nature can get rid of a little of the grossness which clogs her machinery; second, Avoidance of the cause; third, A few packs, fomentations over the liver, and the *daily dry-hand rub*, with a wholesome diet.

Lemons and other acid fruit seem to have a favorable influence upon this condition of the system.

Bitters are filthy compounds of various nauseous drugs and poisons, and bad whisky. *All* of them contain alcohol. "Temperance Bitters" and "Vinegar Bitters" are no exceptions. Some contain more alcohol and fusel-oil than brandy, gin, or rum. The various "blood tonics," "purifiers," "invigorators," etc., are of the same character. Their manufacturers are deserving of a place in the deepest part of the bottomless pit; for they lay snares for the unwary, making drunkards of the best and most promising men and youth. Their pretensions are all falsehoods, and their testimonials are either fraudulent or the result of bribery. Can bitters purify the blood? Never. As well talk of cleansing a delicate fabric with slime from a cess-pool.

Roots and herbs belong in the same category with the rest. They are not so harmful, however, though equally useless.

Cramps.—Relief is given by the hot or cold douche, hot fomentations, rubbing with cold water, and by pressing the affected muscle against some hard body, or grasping it firmly with the hand. Cramp in the stomach may require an emetic of warm water, with a hot sitz-bath and foot-bath.

Palpitation of the Heart.—Indigestion is the usual cause. It will cease when the cause is

removed. It need not be a cause of alarm in ordinary cases. If the patient has had rheumatism he should have his heart examined by a physician.

Indigestion.—Proper food, eaten in proper quantity, and at the proper times, ought to be properly digested. In rare cases, only, it may not be. When it is discovered that an article of food is really injurious to digestion, discard it at once. Eat few kinds at a meal. Avoid eating fruits and vegetables together. Do not drink at meals. Eat slowly. Eat mostly dry food. Do not sleep soon after eating. If the stomach is slow in its action, hot fomentations and gentle kneading soon after eating will promote digestion. Salt and other condiments are often the cause of indigestion.

Sometimes oatmeal gruel, eaten with dry crackers, will be retained and digested when nothing else will be. Other cases will not tolerate any kind of farinaceous food.

A young infant which is for any reason deprived of its natural food, and rejects everything else, will thrive upon a mixture of raw white of egg in water—the white of one egg to a half pint of tepid water. The water should not be hot enough to coagulate the egg. Thoroughly mix, and feed with a spoon.

Softening of the Brain.—So-called softening of the brain is not softening of the brain at all. It is simply congestion of the brain from

bad food, bad air, late hours, dissipation, lack of exercise, and sundry other causes. Healthy food, a daily bath, abundant sleep, and plenty of exercise in the open air, will cure nearly every case in a short time.

Consumption.—Is consumption curable? It is, if taken in time. The following hints, if carefully followed, will arrest the disease in its early stages:—

1. Avoid all the causes of the disease, chief among which are breathing air which has been previously breathed, sedentary habits, late hours, and exposure to extremes of temperature.

2. Live in the open air at least seven hours a day. Exercise sufficiently to produce moderate fatigue, but not exhaustion. Horseback riding and walking are good exercises.

3. Fill the lungs to their utmost capacity several times in succession, every hour of the day at least; and cultivate the habit of deep breathing. Do not strain the lungs by holding the breath long. Keep the shoulders well thrown back.

4. Avoid all kinds of stimulants and stimulating food. Eat the most nourishing kinds of food. The chance for recovery largely depends upon the amount of nutriment which can be well digested and assimilated.

5. Take a thorough tepid sponge-bath, followed by a dry-hand rub, three times a week. The whole body should be thoroughly rubbed with *the dry hand* each morning.

6. Wear flannel the year round ; thick in winter, thin in summer. A silk under-suit is an excellent protective.

7. Avoid every form of cough sirup, balsam, cough mixtures, lozenges, expectorants, etc., etc., no matter how strongly recommended. Cód-liver oil, fat pork, bullock's blood, and similar remedies are as useless as absurd and disgusting.

Be sure to begin in season. A few months' delay has often sacrificed the last chance. "Throw physic to the dogs," obey the laws of nature, and trust in nature's God.

Vomiting.—If the patient evidently has something in his stomach which ought not to be there, as indigested food, or something obnoxious which has been swallowed, administer a warm-water emetic to assist in the removal of the cause of the difficulty. If there is no evidence of anything in the stomach which needs expulsion, apply either very cold or very hot cloths over the stomach, place the feet in hot water, and give sips of either *hot* or cold water, or little bits of ice to swallow. The attempt should not be made to check the vomiting unless it is clear that the stomach has been freed from its irritating contents, if this was the cause which induced it at first.

Cough.—Coughing, like vomiting, should be encouraged rather than restrained when there is anything which needs expulsion in that manner. *Many consumptives* have been suffocated by the

sudden stopping of a cough which was merely an effort of nature to get rid of foul matter in the lungs. If there is no cause for the cough but irritation in the throat, it may be cured, in most cases, by the application of the wet bandage. Wear night and day, and change frequently. If the cough seems to have no sufficient cause, it may be concluded that it is of a purely nervous character. The force of will power is the best remedy. Resolve not to cough, engage the attention with something else, and forget it. This method will sometimes succeed even when there is a little irritation present. Continuous coughing will produce irritation of itself. Frequent sips of cold water, and gargling cold water or a mixture of water and lemon juice, will often relieve a cough when it is due to irritation of the upper part of the windpipe. Wearing the wet bandage about the throat is an excellent remedy.

Do not eat honey, lozenges, loaf sugar, licorice, hoarhound, cough candy, or anything of the kind. They are worthless as remedies, and do the stomach a vast deal of damage.

Hiccough (hickup).—This troublesome affection is usually caused by a disordered stomach. Get the stomach in good condition, and it will disappear. A few sips of cold water will often relieve it. Perhaps the best remedy is holding the breath and fixing the attention intently upon some object.

Sneezing.—When suddenly seized with a desire to sneeze, place the finger upon the upper lip and press hard. Rubbing the nose vigorously will also suppress the paroxysm when it is desirable to do so. When the affection is caused by disease of the nasal cavity, it will not be so easily controlled. The inhalation of steam, and the warm or cold nasal douche, or gently drawing water into the nose, will frequently give material relief.

Bad Breath.—The chief causes are catarrh, decayed teeth, foul teeth, disordered stomach, and constipation. The remedy is to remove the cause. If there are foul and decaying accumulations in the nose, remove them by syringing the nose with a weak solution of permanganate of potash, common salt, or tepid water. Simply snuffing the fluid gently into the nose is quite effective. The fluid should not be thrown violently into the nose, as injury may result therefrom.

Decayed teeth should be either filled or drawn ; their presence in the mouth is not only a cause of offense, but is productive of disease of the stomach, besides being a source of impurities which find their way into the blood through the lungs.

Uncleanly teeth are quite certain to decay sooner than those which are kept free from *impurities*. If the food which adheres to the teeth *and lodges between them* is allowed to remain,

it speedily undergoes putrefaction and becomes very offensive. The teeth should be cleansed with a brush and pure water after each meal, and soon after rising in the morning. Once a day, at least, they should be thoroughly brushed with fine soap and pulverized chalk. Artificial teeth need especial attention. They should be daily washed with fine soap and a solution of carbolic acid and water, in proportion of a teaspoonful of the acid to a half pint of soft water. Shake well before using. Do not wear artificial teeth during the night.

When disorder of the stomach is the cause, it must be cured, to purify the breath.

If the contents of the bowels are retained, instead of being promptly voided, their fluid portion will be absorbed into the blood with all their noxious and disgusting properties. The characteristic odor can be easily detected in the breath of persons whose bowels are constipated or irregular. Few things are more offensive than the breath of a costive child.

The proper remedies for foul breath from this cause are pointed out under the head, "Constipation." No amount of good looks can atone for a foul breath. Cleanliness and wholesome diet are all that are necessary to remove it. It is a very disgusting thought that the breath may contain what ought to have been voided from the bowels some time before.

Sleeplessness.—Eat an early and light supper of easily digested food; or, better, eat no

supper at all. Do not engage in exciting conversation or amusements during the evening. At an early hour prepare to retire, determined to sleep. Just before going to bed, soak the feet for ten minutes in a pail of hot water. Cool the water a little just before taking them out. This will relieve the brain of a little of its surplus blood. Go to bed at peace with all the world, close the eyes, and fix the mind steadily upon some familiar object until sleep comes. Don't allow the mind to wander if possible to prevent it. If unsuccessful, in addition to the above have hot wet cloths applied to the head after going to bed. A dripping sheet bath just before retiring sometimes affords excellent results. Gently rubbing the temples with the hand, and rubbing the spine from above downward and the feet and limbs in the same direction have a very soothing effect. The warm full-bath is an excellent soporific.

Chafing.—Fleshy persons and children are often seriously troubled by chafing in hot weather. Daily cleansing of the affected parts with cool water and fine soap, and local tepid bathing, repeated several times a day, will prove the most efficient remedies. Anointing the parts with sweet cream or a little unsalted butter, and applying dry, powdered starch, are useful measures. Cleanliness is the most important remedy.

Chapped Hands, Feet, and Lips.—Wet, cold, and dirt are the chief causes. The use of

hard soap, and imperfectly drying the hands before exposure to cold are the exciting causes of chapped hands in most cases. To cure, keep them scrupulously clean. Wash them with castile soap and soft water. After wiping them nearly dry, rub them with finely powdered starch.

Washing the hands with water to which a handful of bran or corn meal has been added, is a good remedy.

Another remedy: After thorough washing and drying, at night, apply glycerine, adding a few drops of soft water, and rubbing in well. Wear gloves during the night.

Sweet cream is another common remedy. Honey is warmly recommended by some. The wet bandage is one of the best of all.

The same remedies are to be used for the lips and feet as for the hands. When fissures or cracks occur, keep the edges together by means of adhesive plaster.

Ulcers.—Old ulcers on various parts of the body are frequently very offensive as well as painful. To remove the odor emitted by the discharges, wash them thoroughly twice a day in a weak solution of carbolic acid or permanganate of potash. The application will also do something toward healing it. The water-dressing, and a strict diet are the best remedial agents.

Canker.—The small white ulcers which sometimes occur in the mouths of both children and adults are commonly known by this name, which

really belongs to a much more serious affection. They indicate derangement of the stomach. The proper remedies are, improvement of the digestion, washing the mouth frequently with cold water, and touching the cankers with nitric acid, lunar caustic, or some other caustic application. Various astringent washes are used with some benefit.

Stammering.—Stammering is a real disease. It is sometimes induced, by imitation of others, in those who have no natural impediment of speech. It is rather difficult to cure, but perseverance and firmness will master it. Speak very slowly and deliberately, uttering no sound until the vocal organs are well under control. Open the mouth widely in speaking, speak loudly, and breathe deeply. One of the causes of stammering is attempting to speak with the lungs only partially filled. Stop speaking instantly when the slightest embarrassment is felt, and keep the lungs well filled.

Dandruff.—Cleanse the scalp daily with pure soft water and fine soap, and brush it with a soft brush. Do not use any of the patent nostrums advertised.

Sore Eyes.—Ordinary inflammation of the eyes is greatly relieved by laying upon them one or two thicknesses of linen cloth wet in tepid water. Smarting of the eyes when reading will *usually* be relieved by moistening them often.

with water. Never use eye-water or caustic unless under the advice of a skillful oculist.

Nearsightedness.—If the eyes are nearsighted, they should be at once provided with suitable glasses, or they will suffer injury. The glasses should be adapted to the eye by an experienced oculist.

Farsightedness.—Like the preceding, this disease needs immediate attention, although less injury will result from some neglect in this case.

Baldness.—Cut the hair short, and bathe the head twice a day in cool water, adding considerable friction with a brush of medium stiffness. Keep the feet warm, and maintain good digestion. If the hair follicles are not destroyed, the hair will grow again; otherwise it will not. The various lotions sold for this purpose are poisonous, and produce diseases which are sometimes fatal.

Itch.—The disease is caused by a parasite which burrows under the skin. The object of treatment is to kill the insect. It is perhaps possible to do this by means of water alone; but as the only applications necessary are made to the skin only, no harm can result from the careful use of more speedy and effective remedies. Sulphur is the most reliable remedy. Take two ounces of lard, one ounce of sulphur, and one-eighth ounce of powdered sal ammoniac. Mix well and apply at night after thoroughly washing the affected parts in strong soap-suds. Al-

low the ointment to remain on over night. Wash it off thoroughly in the morning and put on clean clothes. Repeat the same treatment three or four times in succession. An ointment of storax and lard, one part of the former to four of the latter, is quite efficient. Perfect cleanliness is essential to successful treatment. The application of oil and lard alone is said to cure by half a dozen applications. Mercurial preparations should be avoided, as they sometimes poison the system.

Lice.—Animal parasites of various kinds which infest the body abound only when their presence is encouraged by filth. They usually disappear very quickly when absolute cleanliness is preserved. If they do not at once vanish, the application of an ointment made of one part of Scotch snuff to two of lard will speedily destroy them. This ointment is quite poisonous, and should be quickly removed after thorough application.

Warts.—If the wart is small, it may be cured by touching it with the end of a stick which has been dipped in strong acetic acid. The application should be made several times a day until it is destroyed. If large and old, apply nitric acid in the same way. Lunar caustic and caustic potash may also be used.

Corns.—Cease to wear tight boots, shoes, or *stockings*. Soak the feet for half an hour in hot *water and soft soap*. Repeat this treatment un-

til the corn is soft, then remove it. The application of acetic acid, muriatic acid, nitric acid, or almost any caustic, will effect a cure. Wearing a piece of buckskin with an opening through it just the size of the corn, keeping the buckskin saturated with oil, will give great relief by removing pressure from the tender part.

Bunions.—These originate in the same way as corns, and require somewhat similar treatment. Soaking the feet in hot water when they are inflamed, and bathing with cool water at other times, gives great relief. If there is much thickening of the skin, apply a caustic, as nitrate of silver, or lunar caustic. When the black surface comes off, apply the caustic again. Wearing a piece of soft buckskin, as directed for corns, to prevent pressure, is a useful remedy.

Boils.—The application of heat and cold, alternately, will sometimes disperse a boil in the early stage. When it becomes painful, apply hot fomentations frequently, with the wet compress during the intervals, or apply continuously a soft poultice. The wet compress covered with oil silk has the same effect as the poultice. The kind of poultice is quite immaterial, if it be unirritating, for its only valuable properties are warmth and moisture.

When the boil is ripe, that is, when a little white vesicle appears near the surface, its cure may be hastened by lancing with a sharp knife. *The discharge may be encouraged by gentle pres-*

sure; but squeezing boils is a very harmful process, and greatly retards their cure. If they do not discharge freely after opening, poultice or apply fomentations. Applications for the treatment of boils should be made to the surrounding tissues as well as to the boil itself, to be effective.

A carbuncle is simply a large boil. A sty is a small one upon the eyelid. Treatment for each is the same as for ordinary boils.

It is a mistaken notion that the purulent matters discharged from boils are concentrated impurities which previously existed in the blood. The pus itself is made up of the white blood corpuscles, the most precious part of the blood. The discharge contains impurities, but most of them are the result of the death of the tissues which have suffered in the inflammation. It is yet an undeniable fact that many persons experience an improvement in health after having several boils, whatever may be the explanation. The contents of a boil are very poisonous to the system when absorbed into the blood.

Felon.—The real disease is an abscess formed beneath the periosteum, or skin of the bone. It may sometimes be dispersed by the application of turpentine or other strong irritants, or by holding the finger in strong lye as hot as can be borne for half an hour, several times a day. Keeping the hand constantly in ice-cold water *gives great relief*, and sometimes prevents the *further progress* of the disease if employed in

time. Relief is also afforded by the cold douche, arm-bath, and wearing the cold compress upon the arm and hand. When the disease is manifestly settled, the quickest remedy is found in lancing the finger to the bone. Warm fomentations and poultices may afterward be applied to encourage the discharge.

Stone Bruise.—This disease, usually the result of accident, is of a nature similar to felon. The intense pain often present is relieved by placing the part in very cold water. It may be treated nearly like a felon.

Hang-Nail.—Do not attempt to cure the difficulty by cutting away the sharp edge of the nail which protrudes into the flesh. This will only increase the evil. Scrape the nail very thin in the center—nearly or quite to the quick. Then elevate the portion of the nail which encroaches upon the flesh, and place a little pledget of cotton underneath. Repeat the operation until a cure is effected.

Care of the Sick.—Every physician knows that in the majority of cases much more depends upon the care which the patient receives from his nurse, than from himself. A careless nurse has often turned the scale which hung nearly evenly balanced between life and death, adverse to recovery. The following are some of the more essential matters which demand attention, though nothing can supply the native tact and grace *which are necessary to make a really good nurse*.—

1. Secure a constant supply of pure air from out-of-doors. It is not sufficient to open a door leading into another room. Cold air may be very impure. Be careful to exclude the air from the kitchen and wash room as perfectly as possible.

2. Admit the light and sunshine freely. Direct sunlight is sometimes unpleasant to the patient; then shade the windows with a white curtain, which will admit the light. In a few diseases it may be necessary to keep the patient in a darkened room for a few days.

3. Maintain equable temperature. More fire is needed in the morning and evening than at noon. Regulate the heat by a thermometer hung near the bed. The mercury should never be above 70°. Old people especially need attention in this particular. A fall of a few degrees in temperature is often fatal to them. Avoid draughts.

4. The linen of the patient and his bedding should be changed every day at least. Daily washing will not be demanded in all cases, but the clothing should hang for several hours near a heated stove to air and dry.

5. Food for sick people should always be simply and neatly prepared. Light food is usually the best. Condiments should be very sparingly added, if at all. Oatmeal gruel is one of the best articles of food for sick persons. Fruit may be freely allowed if of good quality and ripe. Beef tea and broth will not sustain life. A dog *starved* sooner on a diet of beef tea than he would *have done with* nothing at all. Give food regu-

larly, as in health. Continual dosing with milk or any other food is harmful.

6. The patient himself should be kept scrupulously clean. The whole body should be washed several times a week at least. The mouth and teeth should be daily cleansed.

7. All discharges should be kept in covered vessels, and should be removed from the room at the earliest moment possible.

8. The sick chamber should be made pleasant by tasteful arrangement of its contents, by flowers, simple pictures, etc. Frequent change in the aspect of the room is desirable.

9. The patient should never be kept in a state of expectancy. When a promise is made him, fulfill it promptly.

10. Whispering or low talking in the sick-room or adjoining rooms will arouse the patient's fears unnecessarily. Avoid it.

11. Hasty movements in the sick-room are always annoying to a patient. A calm, deliberate air on the part of the nurse inspires confidence.

12. Arrangements for the night should be made before the patient becomes sleepy, so that he may not be disturbed. Otherwise, the movements necessary in making preparations for the night may cause him to become so restless that sleep will be impossible.

13. All avoidable noises should be prevented. Creaking doors, squeaking boots or shoes, a swinging blind, or a flapping curtain, are intolerable to *the sensitive ears* of invalids. Coal should never

be poured from the scuttle upon the fire. Bring it into the room in small parcels wrapped in damp paper. These can be laid upon the fire noiselessly.

14. If the patient can sleep, let him sleep. Never think of waking a sick person out of a sound sleep. Refreshing sleep will do him more good than all the medicines and baths in the world.

15. The covering of the patient in bed should be several light, porous blankets, rather than one or two heavy ones.

16. Strangers and visitors should be prohibited from entering the sick-room of a feeble patient. Visiting will often determine a fatal issue of the disease.

17. Water kept in a sick-room should be often changed. Never drink that which has been in the room more than a few minutes.

18. Always wear a cheerful face. Do not look solemn and anxious, even though the case is grave.

19. Never annoy the patient by questions or too much conversation.

20. Always recollect that nature must cure. All you can do is to make the conditions as favorable as possible.

Signs of Real Death.—It has sometimes happened that people have been buried alive when they were seemingly dead. Such a sad *mistake* can be prevented by applying the following simple tests:—

1. The loss of sensibility and warmth, and cessation of the pulse and the breathing, are the signs which at first indicate death ; but these are not always reliable.

2. Rigidity of the muscles is another better evidence, but this is not wholly decisive ; yet if the muscles remain soft after death, interment should be delayed.

3. The most reliable sign of death, perhaps the only decisive one, is putrefaction. This usually begins first in the lower part of the abdomen.

4. Another test of some value in doubtful cases is tying a cord tightly around a finger. If death has taken place, the color will remain unchanged. If the heart still beats, the end of the finger will become of a deeper color.

5. The application of a hot iron or other caustic appliance will not produce a blister on a dead body.

Dr. Holmes on Trail Dresses.—Our landlady's daughter is a young lady of some pretensions to gentility. She wears her bonnet well back upon her head, which is known to all to be a mark of high breeding. She wears her trains very long, as the great ladies do in Europe. To be sure, their dresses are so made only to sweep the tapestried floors of chateaus and palaces, as those odious aristocrats of the other side do not go dragging through the mud in silks and satins, but, forsooth, must ride in coaches when they are in full dress.

It is true, that, considering various habits of American people, also the little accidents which the best-kept sidewalks are liable to, a lady who has swept a mile of them is not exactly in such a condition that one would care to be her neighbor. But confound the make-believe women we have turned loose in our streets! Where do they come from? Not out of our parlors, I trust. Why, there isn't a beast or a bird that would drag its tail through the dirt in the way these creatures do their dresses.

Because a queen or a duchess wears long robes on certain occasions, a maid of all work or a factory girl thinks she must make herself a nuisance by trailing about with her—pah! that's what I call getting vulgarity into your bones and marrow. Making believe what you are not is the essence of vulgar people. If any man can walk behind one of these women and see what she rakes up as she goes, and not feel squeamish, he has got a tough stomach. I wouldn't let one of 'em into my room without serving them as David served Saul at the cave in the wilderness—cut off his skirts, sir; cut off his skirts.

Don't tell me that a true lady ever sacrifices the duty of keeping all about her sweet and clean to the wish of making a vulgar show. I won't believe it of a lady. There are some things that no fashion has a right to touch, and cleanliness is one of those things. If a woman wishes to show *that* her husband or father has got money which *she wants and means to spend*, but does n't know

how, let her buy a yard or two of silk and pin it to her dress when she goes out to walk, but let her unpin it before she goes into the house.

Medicine to the Dogs.—Many years ago, when cholera was rife in Ireland, it seemed to defy the skill of the faculty to such a degree that the panic-stricken people believed the doctors poisoned the patients ; and in some instances, they threatened to pull down the hospitals. During the while, a physician was applied to very urgently by the brother of a cholera patient to make a visit at the dead hour of the night, and at considerable distance from his residence. Being unable to attend, he carefully prepared and gave the messenger medicines suited to the emergency, and dispatched him, with the injunction to inform him if his brother was not relieved by morning, and he would call.

A few days afterward, he met the brother-messenger in the street, and the following conversation occurred :—

“ Well, John, how is Pat ? ”

“ Long life to your honor, he’s finely ! ”

“ I’m very glad to hear it, John ; it’s an ugly complaint, that cholera.”

“ Throth, and your honor, it is ; and poor Pat had a hard time of it, but praised be the Lord, he’s well again ; and plase your honor, the dog’s dead.”

“ What dog ? ”

"Oh! your honor, it's for sartin the dog's dead."

"What dog are you talking about, my good fellow?"

"Plase your honor, I gave the medicines the doctor sent, to the dog, and he's dead; but Pat's finely, your honor."

Items for Tobacco-Users.—The New York *Dutchman*, which certainly should be posted, speaks as follows: "The tobacco crop, for the year 1850, amounted to nearly 200,000,000 of pounds; of this 200,000,000, \$8,000,000 worth was consumed at home. The census also informs us that our 'chewing' is on the increase. In 1840, the consumption per head, in the United States, amounted to 2 lbs. and 1-2 oz.; in 1850, to 3 lbs. 8 oz.; which shows that our taste for filth increased 70 per cent. in the short period of ten years. The spittle made per year by our smokers and chewers, would, it is estimated, fill a reservoir as long, wide, and deep as the Erie Canal, while the amount of short-cut annually masticated by our people would, if thrust down the throat of Vesuvius, keep the crater vomiting for the next two centuries. Why is there not a society for the suppression of this abuse of the salivary glands?"

ACCIDENTS AND EMERGENCIES.

THE injuries resulting from accidents usually demand instantaneous action. A little delay or confusion, or misdirected effort, in a case of severe burning, drowning, or hemorrhage, will often sacrifice a human life. The following simple directions should be carefully studied so that they can readily be made available at any moment:—

Drowning and Suffocation.—The chief remedy to be used in all cases is *artificial respiration*. There are several methods which are very serviceable. The following, which is the most approved method for restoring drowned persons, we copy from a publication issued by the Michigan State Board of Health, the Secretary of which, Dr. H. B. Baker, has kindly furnished us with cuts for illustration:—

TREATMENT OF THE DROWNED.—“Two things to be done: 1. Restore breathing; 2. Restore animal heat.

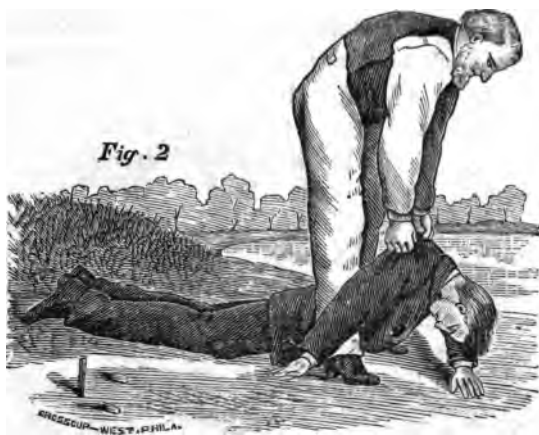
“**RULE 1.**—*Remove all obstructions to breathing.* Instantly loosen or cut apart all neck and waist bands; turn the patient on his face, with the head down hill; stand astride the hips with your face toward his head, and, locking your fingers together under his belly, raise the body as high as you can without lifting the forehead.

off the ground (Fig. 1), and give the body a smart jerk to remove mucus from the throat and water from the windpipe; hold the body suspended long enough to slowly count *one, two, three, four, five*, repeating the jerk more gently two or three times.



“RULE 2.—Place the patient on the ground, face downward, and maintaining all the while your position astride the body, grasp the points of the shoulders by the clothing, or, if the body is naked, thrust your fingers into the armpits, clasping your thumbs over the points of the shoulders, and *raise the chest as high as you can* (Fig. 2) without lifting the head quite off the ground, and hold it long enough to *slowly* count one, two, three. Replace him on the ground, with his forehead on his flexed arm, the neck *straightened out*, and the mouth and nose free. *Place your elbows against your knees*, and your

hands upon the sides of his chest (Fig. 3) *over the lower ribs and press downward and inward*



with increasing force long enough to slowly count one, two. Then suddenly let go, grasp the



shoulders as before and raise the chest (Fig. 2);

then press upon the ribs, &c. (Fig. 3). These alternate movements should be repeated ten to fifteen times a minute for an hour at least, unless breathing is restored sooner. Use the same regularity as in natural breathing.

“RULE 3.—After breathing has commenced, RESTORE THE ANIMAL HEAT. Wrap him in warm blankets, apply bottles of hot water, hot bricks, or anything to restore heat. *Warm the head nearly as fast as the body, lest convulsions come on.* Rubbing the body with warm cloths or the hand, and slapping the fleshy parts may assist to restore warmth, and the breathing also. If the patient can SURELY swallow, give hot coffee, tea, milk, or a little hot sling. Give spirits sparingly, lest they produce depression. Place the patient in a warm bed, and give him plenty of fresh air; keep him quiet.

“*Avoid Delay.* A MOMENT may turn the scale for life or death. Dry ground, shelter, warmth, stimulants, etc., at this moment are nothing—ARTIFICIAL BREATHING IS EVERYTHING—is the ONE REMEDY—all others are secondary.

“*Do not stop to remove wet clothing before efforts are made to restore breathing.* Precious time is wasted, and the patient may be fatally chilled by exposure of the naked body, even in summer. Give all your attention and effort to restore breathing by forcing air into, and out of, the lungs. If the breathing has just ceased, a *smart slap* on the face, or a vigorous twist of *the hair* will sometimes start it again, and may

be tried incidentally, as may, also, pressing the finger on the root of the tongue.

"Before natural breathing is fully restored, do not let the patient lie on his back unless some person holds the tongue forward. The tongue by falling back may close the windpipe, and cause fatal choking.

"If several persons are present, one may hold the head steady, keeping the neck nearly straight; others may remove wet clothing, replacing at once clothing which is dry and warm; they may also chafe the limbs, and thus promote the circulation.

"Prevent friends from crowding around the patient and excluding fresh air; also from trying to give stimulants before the patient can swallow. The first causes suffocation; the second, fatal choking.

"Do not give up too soon. You are working for life. Any time within two hours you may be on the very threshold of success without there being any sign of it."

MARSHALL HALL'S READY METHOD.—This famous method consists, briefly, in laying the patient with his face downward, his arms folded beneath his forehead, and then slowly rolling him upon his side, restoring him again to his former position. By this means, the chest is alternately compressed and expanded, thus imitating the movements of respiration. This method has been variously modified.

SYLVESTER'S METHOD.—This method, which

has been proposed more recently, is highly recommended by many physicians. Raise the arms from the sides until they meet above the head ; then bring them slowly back to the sides again, pressing them against the sides of the chest. Repeat this sixteen or eighteen times a minute. It is a very efficient means when skillfully applied.

Upon submersion in the water, the epiglottis, a little valve at the top of the windpipe, closes, shutting out the water from the lungs. After a time, the muscles relax, and the valve opens. Water then enters the lungs. After this occurs, there is no longer any possible chance for recovery ; but as there is no ready means for determining accurately the condition of the lungs, every effort should be made to resuscitate the patient by the means already described. The length of time a person can live under water will depend very much upon the amount of pure air in his lungs at the time of submergence.

Poisonous Gases.—Carbonic acid (more properly carbon di-oxide) is the most common cause of suffocation. Chlorine gas, illuminating gas, the vapor of burning sulphur, ether, and nitrous oxide or laughing gas, with other poisonous gases, produce death in the same way, though some of them are active irritants in addition.

Carbonic acid is heavier than air, and, in consequence, it accumulates in old wells, caves, deep valleys, and other low places. It is formed in *mines in large quantities*, at times, and is known

to miners as "choke damp." It is also formed in the vats of breweries by fermentation. In the burning of limestone it is also produced in enormous quantities. When the kilns are opened, it sometimes pours out so rapidly as to suffocate the workmen before they can escape. Miners are frequently destroyed by a sudden gust of "choke damp."

Old wells should never be entered without first testing the air at the bottom. Do this by lowering a burning candle. If it is extinguished, or burns feebly, carbonic acid is present, and descent would be extremely perilous. If it burns brightly, no fears need be entertained. If gas is found to be present, it can be dislodged by throwing into the well burning fagots or paper. Old cellars and cisterns are sometimes dangerous on the same account; they may be tested in the same way.

Upon the inhalation of the first breath of carbonic acid, the person usually falls, and thus remains exposed to the poisonous effects of the gas. Under such circumstances, speedy and well-directed efforts are necessary to prevent death.

In a burning building, the purest air is near the floor, as the smoke containing the carbonic acid is hotter than the air when first formed, and rises. In escaping from a burning building, it is sometimes advantageous to go upon all-fours so as to breathe the best air.

Charcoal burning in a room in an open vessel will produce large quantities of carbonic acid

gas in a short time. In France, suicide is often committed by this means.

Illuminating Gas often escapes into sleeping rooms through leakage of the gas pipes, or by reason of failure to completely shut off the supply to the burner upon extinguishing the flame.

People unaccustomed to the use of gas are sometimes so thoughtless as to blow out the flame as they would that of a lamp or candle, leaving the gas to find unobstructed entrance. Many lives have been lost in this way.

Hanging is another means by which the supply of air to the lungs is cut off, causing asphyxia. A red line around the neck is usually indicative of this manner of producing suffocation.

The remedies in all cases of suffocation are essentially the same. Remove the patient from the cause, or, *vice versa*, as quickly as possible. Draw the tongue forward, clear the mouth, dash cold water upon the face and chest, rub the body vigorously, and apply artificial respiration. If chlorine has been accidentally breathed, inhale as quickly as possible ammonia gas.

Choking.—When a particle of food, or any other body, becomes lodged in the throat, go upon all-fours and cough. If it is not expelled, the patient should be seized by the heels and suspended head downward, while his back is percussed by another person. If the body can *be seen* by drawing the tongue well forward, *seize it with a pair of forceps, or a hook made by*

bending the end of a wire or a hair-pin which has been straightened. Sometimes it may be elevated from its position by mean of a spoon handle. If it is out of sight and all efforts to expel it are unavailing, press it down with the finger or a smooth rod with a rounded end, throwing the head back as far as possible while doing so. A body which has lodged part way down the esophagus may sometimes be pressed down into the stomach by pressing hard upon each side of the neck close to the windpipe.

Lightning Stroke.—Dr. Fothergill remarks as follows on this subject:—

“Persons struck by lightning are not always dead when they appear to be so. There are few recoveries from this state, because no means are tried to restore the sufferer. In the tropics there are many instances of persons, struck down by lightning, recovering after a heavy thunder shower; and it would appear that cold affusion to the body has a decided action in such cases. The injured cannot be harmed by the free use of cold water, and if only an occasional recovery took place, it would be well worth the pains bestowed. The persons so injured should have cold water poured or even dashed freely over them.”

Artificial respiration should also be employed.

Sunstroke.—Carry the patient at once to a cool, shady place, remove his clothing, and dash cold water upon his body, especially the head and chest. Rubbing the spine with ice is an excel-

lent remedy. Continue the cold application until the unnatural heat is materially decreased. Artificial respiration should be practiced at the same time. No stimulants should be given to the patient.

Hemorrhage.—If an artery is wounded, the blood will flow in jets, sometimes being thrown several feet, and will be of a bright red color. If the wounded vessel is a vein, the blood will be of a dark color, and will flow in a steady stream. Slight hemorrhage will be easily controlled by pressure over a little pad of folded linen applied directly to the wound.

When large vessels are injured, greater care is necessary. If the vessel is an artery, apply the pressure between the wound and the heart. If it is a vein, apply the pressure upon the opposite side.

The application of cold, by means of cloths wet in iced water, snow, or pounded ice, is a very effective means of stopping hemorrhage.

In case the hand, forearm, or foot is severely wounded, it should be elevated above the rest of the body and bound in towels in which pounded ice is folded. Hemorrhage from the end of a finger or toe may be stopped by the application of pressure to the sides.

When a very large artery of the arm or leg is wounded, resulting in hemorrhage which cannot *be quickly controlled by any of the means mentioned, proceed as follows* :—

Take a handkerchief or a strip of cloth of sufficient length to reach around the limb. Tie a large knot in the center. Apply the knot just over the course of the wounded vessel, above the wound. Now pass a stout ruler or rod beneath the bandage upon the opposite side from the knot. Twist it around so as to tighten the bandage and thus compress the artery beneath the knot. Increase the compression until the hemorrhage is controlled. A tight bandage of this kind should not be retained too long, as it may destroy the life of the parts below. Its object is to control the hemorrhage only until the wounded vessel can be secured and tied by a surgeon or other competent person.

Bleeding from wounds of the scalp is easily controlled by pressure upon the seat of injury.

Nose-Bleed.—Remove all constrictions from the throat, so that the return of blood from the head will be unobstructed. Hold the head erect for the same reason. Inclining it forward encourages the hemorrhage. Twist the corner of a handkerchief or piece of old linen and press it tightly into the bleeding nostril. Hold it in place until the bleeding ceases, unless it passes backward into the throat, when other measures will be required. Blowing the nose, and bathing it in water, increase the hemorrhage rather than check it.

Pressure upon the facial artery upon the side on which the hemorrhage occurs, will sometimes *check it*. Apply firm pressure upon the notch

on the lower border of the lower jaw just in front of the angle.

When the bleeding has once stopped, do not disturb the clot that has formed in the nose, as it may be induced again by so doing. In very severe cases the posterior opening from the nasal cavity into the mouth will require plugging; surgical assistance will be required for this.

Hemorrhage from the nose is seldom fatal. When scattered upon the floor or clothing, a few ounces of blood look like a quart. A very few spoonfuls will color a large quantity of water very red.

Bleeding from Lungs.—Blood which is expectorated by coughing often comes from the throat or nasal cavity, trickling down into the air passages and being coughed out. This is nearly always of a dark color, and is commonly clotted. Blood which comes from the lungs is of a bright red color, and is frothy from the admixture of air. The amount of blood lost is much less than usually thought, and is seldom the cause of death.

Keep the patient as quiet as possible, with his head elevated a little. Instruct him to restrain his cough as much as he can, and to avoid all violent efforts at coughing. Make cold applications to the spine and hot to the feet and limbs. Salt and other drugs are often employed, but it is exceedingly doubtful whether they are of the *slightest* value, since they pass at once to the *stomach not entering the lungs at all.*

Cuts.—Cuts should be dressed in such a way that the severed edges may unite properly. Firm clots of blood lying in the wound should be carefully removed, with any other foreign body. If the bleeding has ceased, the edges may be brought together and secured by stitches or adhesive straps, according to the size and position of the wound. Small wounds sometimes require only that the edges be thus brought together to stop the bleeding. The strips of plaster used should be narrow, and there should be narrow spaces left between them, to allow room for the escape of the discharge, should any occur.

If the end of a finger or toe has been accidentally cut off, it should be at once replaced, even though it was entirely severed. Being kept in place, it will be quite likely to adhere and prevent an ugly scar. If the severed piece is frozen or badly bruised, the attempt will be useless.

Dressing for Wounds.—As a dressing to be applied to all wounds, nothing is equal to water. While swollen and painful, cold applications should be made by means of thin compresses, which should be changed every few minutes. After the pain and inflammation have subsided, apply thin compresses kept constantly wet with tepid water. In some cases submersion of the part in water is serviceable.

The various "pain-killers," liniments, and washes have no healing virtue whatever. Opium and *arnica* relieve the pain by paralyzing the

nerves only. They simply hide the condition of the wound from the patient. Both are poisons which retard healing.

Bruises.—Apply as quickly as possible a hot fomentation. Renew the application every five minutes for an hour or two. Apply afterward the tepid compress. This will prevent soreness, and much of the swelling and discoloration which would otherwise result. This is the way to treat a black eye, a broken nose, or a foot which has been pierced by a rusty nail.

Sprains.—Apply hot fomentations at first; afterward wear tepid or cool compress continually. Absolute rest of the joint is also required.

Fractures and Dislocations.—These accidents usually require the attention of a skillful surgeon, who should be called at once.

Burns and Scalds.—If a person's clothes catch on fire, wrap about him at once a blanket, cloak, rug, or similar article, bringing it tight about the neck to protect the head and face. Remove the burned clothing as quickly as possible and apply wet linen cloths to the burned surfaces. Change every five minutes, applying another cloth instantly after one is removed. (For further treatment see page 53.)

To burns produced by lye, caustic potash, or other alkalies, apply vinegar or some other weak acid as quickly as possible. To a burn produced *by an acid*, apply an alkali; as soda, ashes, or *simple earth*.

Freezing.—In cases of freezing, the great danger is in thawing out too quickly, the result of which is inflammation and death of the frosted parts; or, in milder cases, chilblain. Keep the patient away from the fire. Place him in a cool room, and rub the frozen parts with snow or cold wet cloths until the circulation is re-established. If the patient is apparently dead, artificial respiration should be practiced as long as there is a particle of hope of recovery.

Those who are exposed to severe cold should remember that one of the symptoms of freezing is an uncontrollable desire to sleep. Resist it.

Bite of Mad Dog.—Remove the clothing from the part at once and apply suction to the wound with the mouth. As quickly as possible, remove the injured flesh with a sharp knife or destroy it with an iron at white heat, afterward applying the water-dressing or a poultice.

Few persons that are bitten by rabid animals ever have the disease. Hydrophobia is more common among dogs in the winter than in the summer, contrary to the common supposition. The skunk or polecat is liable to the same disease. Its bite is more dangerous than that of the dog.

Rattlesnake Bite.—Destroy the poison virus in the manner described in the preceding article. As with the bites of mad dogs, few of those bitten are poisoned, and fewer still fatally so. Artificial respiration and rubbing the spine with ice have been highly recommended. Whiskey is

entirely worthless as an antidote. It does more harm than good when administered.

Bee-Stings.—The stings of bees, wasps, and hornets are sometimes extremely painful. Extract the sting, then apply salt and water, ammonia water, alcohol, camphor, or half an onion.

The latter will often give immediate relief; the others increase the pain at first.

The same remedies should be applied to the bites of the mosquito, spider, gnat, flea, and other insects.

Dirt in the Eye.—Particles of dirt or other foreign bodies in the eye should be removed at once. If the object is upon the visible portion of the eyeball, remove it with the corner of a handkerchief. If concealed beneath the lid, roll the lid over upon a pencil or turn it outward with the finger and remove the speck in the same way. Dirt beneath the upper eyelid can often be removed by drawing it outward and downward over the under lid. Then press it upon the under lid and open the eye. Blowing the nose while the eye is closed will assist in the removal of small particles of dirt. Particles of iron which have become embedded in the tissue of the eye may be loosened and removed by a needle mounted in the end of a pencil.

Foreign Bodies in the Ear.—Never use a sharp instrument about the ear in any way. *Insects* can generally be dislodged very speedily by dropping into the ear a little oil or warm

water. Solid bodies like peas, beans, or pieces of stone, can usually be removed by the diligent application of warm water and soap by means of a syringe. The head should be inclined to one side so that the object may readily drop out. If this is unsuccessful after thorough trial, use a loop of fine wire, a small scoop, or a pair of delicate forceps. Hardened ear wax should be softened by warm water and soap and then removed with great care by means of the scoop.

Foreign Bodies in the Nose.—Blow through the nose with as much force as possible, at the same time closing the mouth and the unobstructed nostril. Sneezing will sometimes expel the cause of obstruction. A loop of wire or a blunt hook may be successfully used; but care must be taken to avoid crowding the object further in. If it is not tightly embedded, it may be driven out by making the water from a syringe pass up the unobstructed nostril and out at the one containing the foreign body.

Chimney on Fire.—Throw into the stove, or upon the coals in the fire-place, a handful of salt or sulphur. Close the stove-draught, or hold a board or blanket before the fire-place.

What to Do in Poisoning.—Give an emetic at once, which may consist simply of tepid water in large quantities, or the same with the addition of mustard or common salt. After drinking several cupfuls, tickle the throat with the

finger or a feather. Continue taking a cupful every two or three minutes until vomiting occurs. Individual poisons require special remedies. The following lists comprise the most common poisons and their antidotes:—

Vegetable Poisons.—Opium, Morphia, Camphor, Aconite, Laudanum, Paregoric, Strychnia, Tobacco, Lobelia, Arnica, and other vegetable poisons require the emetic and the application of a stomach pump if possible. Milk and mucilaginous drinks should be given freely after thorough vomiting. Artificial respiration should be employed in poisoning by strichnia and opium. The cold douche is also excellent in poisoning by the latter drug. Keep the patient awake, if possible, by making him walk about.

Acids.—Sulphuric (oil of vitriol), Nitric (aqua fortis), Hydrochloric (muriatic), and Oxalic Acids, are the more common. Drink largely of water at once. Acids are neutralized by alkalis. Calcined magnesia is the best antidote. Chalk (powdered), whiting, lime, weak lye, and strong soap-suds, are the best substitutes. Something must be done quickly in case of poisoning by acids.

Alkalies.—The most common which are sources of poisoning are Ammonia, Potash, Soda, Pearlash, Lye (from wood ashes), and Salts of Tartar. Drink copiously of weak vinegar or lemon juice. Afterward take some mucilaginous drink, or oil.

Mineral Poisons.—For Corrosive Sublimete, White Precipitate, Red Precipitate, and Vermilion, take the whites of several eggs in a quart of tepid water. Soap-suds thickened a little with wheat flour is the best substitute for eggs. No other emetic is necessary.

Arsenic, Cobalt (fly powder), Ratsbane, Paris Green, and other compounds containing Arsenic, should be expelled by vomiting as soon as possible. Then administer *quite large doses* of calcined magnesia.

Acetate of Lead, White Lead, Litharge, and Saltpetre, require an emetic followed by oil or mucilage.

For Lunar Caustic (nitrate of silver), administer half a tablespoonful of salt in a pint of water.

The antidote for Matches or Phosphorus is calcined magnesia, followed by soothing fluids.

Antidotes for Verdigris and Blue Vitriol (sulphate of copper), are eggs, milk, and soda.

Alcoholic Poisoning.—A man found “dead drunk” should be treated like any other case of narcotic poisoning, as from opium.

Chronic Poisoning by Lead, Opium, Tobacco, or any other drug which has been received into the system for a long time, requires, first, that the cause be wholly removed at once; second, attention to the general health. In the case of Opium and Tobacco, the disuse of the drugs is attended with a good deal of unpleasant feeling on the part of the patient. He feels as though he will certainly die. His fears are groundless. He is in much less danger of dying than before.

Poisonous Candies and Food.—The paints used in the manufacture of candies are poisonous, and often sicken those who eat the candies, sometimes fatally in the case of children.

Fish and meat, either fresh or canned, are frequently sources of poisoning. Decayed fruit or other food, shellfish, and mushrooms, are often productive of injury in the same way. Such cases should be treated on the general principles relating to poisoning.

Soda Water.—The water nearly always contains lead. The sirups are most wretched imitations of natural flavors, and are made from such things as old cheese, tar, and mineral acids.

BATHS, PACKS, FOMENTATIONS, ETC.

WATER, applied in the various modes in which it may be, is one of the most potent of remedies. Wrongly applied, it may be productive of great harm. The following are a few general rules which should always govern its use:—

1. Never bathe when exhausted or within three hours after eating, unless the bath be confined to a very small portion of the body.

2. Never bathe when cooling off after profuse sweating, as reaction will then often be deficient.

3. Always wet the head before taking any form of bath to prevent determination of blood to the head.

4. If the bath be a warm one, always conclude it with an application of water which is a few degrees cooler than the bodily temperature.

5. Be careful to thoroughly dry the patient after his bath, rubbing vigorously to prevent chilling.

6. The most favorable time for taking a bath is between the hours of ten and twelve in the forenoon.

7. The temperature of the room should be at about 80° or 85°.

8. Baths should usually be of a temperature which will be the most agreeable to the patient. Cold baths are seldom required. Too much hot *bathing is debilitating.*

The following are brief descriptions of the

more important baths applicable in the home treatment of disease :—

Sponge-Bath.—This bath consists in rubbing the whole body with a sponge or towel wet in water of an agreeable temperature ; is most useful for a general ablution.

Sitz-Bath.—A tub made especially for the purpose, or a common wash-tub, may be employed. Place in the vessel sufficient water to cover the hips and lower part of the abdomen. The patient or an attendant should rub and knead the abdomen during the bath. The water should be of a temperature ranging from 85° to 98°, according to the condition of the patient. Cover the patient during the bath.

Wet-Sheet Pack.—Spread two or three comfortables upon a bed or mattress. Spread over the whole a woollen sheet. Wring out of water of the desired temperature a linen or cotton sheet. Spread it quickly upon the bed, and let the patient immediately lie down in the middle. Then quickly envelop him in the wet sheet, wrapping him snugly from head to foot. Then cover him with the comfortables, and let him remain quiet as long as required. Elevate the head a little, and use care to have the feet warm. Half-packs may be taken in a similar manner, confining the application to the trunk of the body.

Chest-Wrapper.—The wrapper should be made of coarse cloth, and should be shaped so as to fit the chest. Apply it after wringing just sufficiently to prevent dripping. Cover with a light, dry flannel wrapper. Change three or four times a day.

Half-Bath.—For this bath is required a vessel of sufficient size to allow the patient to sit upright with his limbs extended. Enough water to cover the limbs, thighs, and lower part of the abdomen, is necessary. During the bath, the attendant should rub vigorously *the limbs, back, chest, and abdomen, of the patient.*

Pail-Douche.—This consists in pouring water over the shoulders of the patient. It is often employed to tone up the surface after a hot bath.

Compresses.—Apply wet cloths in the same manner as in fomentations, wetting them in either cold, cool, or tepid water, according to the effect desired.

Rubbing-Wet-Sheet.—This bath consists in enveloping the patient in a wet sheet, and rubbing him briskly with the hand outside the sheet.

Fomentations.—Wring out of water as hot as can well be borne, a folded flannel cloth, and apply it quickly to the part to be treated. Cover with a dry cloth, and change once in five minutes.

Hot Applications.—Besides fomentations, heat may be applied in several other ways. Bottles filled with hot water, hot bricks or stones wrapped in papers or cloths, hot cloths, bags filled with hot sand, salt, or corn meal, and rubber bags filled with hot water, are convenient methods of applying dry heat.

Moisture and heat may be applied in a variety of ways also. Instead of wringing cloths out of hot water, put them in a steamer for a few minutes. This saves the trouble of wringing them. When there is no water hot, and a fomentation is wanted quickly, wring a cloth out of cold water, spread it between the folds of a newspaper, and lay the paper upon the top of the stove, or press it against the side. In a minute it will be hot. Wrap stones or bricks in a moist cloth. Poultices of various sorts answer the same purpose.

All hot applications should be renewed every few minutes until the desired effect is obtained.

Vapor-Bath.—Place the patient in a chair which has a wooden bottom, beneath which place a pail half filled with water. Surround the patient completely, chair and all, with a woollen blanket, leaving only his head visible; *even this may be covered a little while at a time in cases of neuralgia*, if desired. Add other blankets sufficient for

warmth. Now raise the blankets a little, behind, and place in the pail a stone or brick which has been heated sufficiently hot to hiss when it touches the water. Do not drop it into the water at once, but let it in gradually. As this becomes cool, add another in the same way. The bath should not usually be continued more than twenty minutes. Wash off quickly with tepid water upon coming out of the bath. The head should be wet from the first.

Hot-Air Bath.—Prepare the patient in the same manner as directed for the vapor-bath. Instead of the pail of water, place beneath the chair a cup containing a small quantity of alcohol. Wet the head well, and then light the alcohol. Wash with tepid water after the bath, and be careful to avoid taking cold.

Enemas.—An enema is a small portion of water thrown into the rectum by means of a syringe. The water may be either cool, tepid, or warm, as occasion may require.

USEFUL HINTS AND RECIPES.

Soap to Remove Grease Spots.—Take equal parts of soft soap and fuller's earth. After beating well together, form into cakes. Moisten the spot, and rub the soap upon it. Allow it to dry, then rub it well, with warm water, rinse, and dry.

To Remove Grease from Silk.—Grease may be removed from silk and other delicate fabrics, thus: Upon a smooth surface spread a woollen cloth. Lay upon this the silk with the right side down. Over the grease spot lay a piece of coarse brown paper. Place upon this a flat-iron sufficiently hot to just scorch the paper. A very few seconds will suffice. Remove the flat-iron and paper and rub the spot briskly with a piece of paper.

If this is not quite successful, apply a little powdered chalk or magnesia to the spot, under the brown paper, before applying the flat-iron.

To Restore Color.—When the color has been destroyed by acids, apply a little ammonia (hartshorn). The restoration will be the more perfect, the more recent the application of the acid.

To Remove Stains from the Hands.—For fruit stains, apply a solution of oxalic acid, and wash quickly. Another way: Light a sulphur match and clasp the hand about it while the sulphur is burning.

Removing Fruit Stains.—Pour boiling water upon the stained spot, and it will usually disappear. This should be done before the spot has been wet with anything else.

Ink Stains.—Apply a solution of oxalic acid to the spot, and wash quickly. If a reddish stain is left, apply a solution of chloride of lime.

To Remove Mildew.—Wet the linen, apply soap to the spot, and then apply fuller's earth or salt and lemon juice to both sides. Air for a few hours. Or, soap the spot, and then apply finely powdered chalk, rubbing it in very thoroughly.

Chloride of lime will remove mildew. Dissolve one ounce in two quarts of water. Steep the linen in the solution all day.

To Remove Paint from Cloth.—Apply spirits of turpentine with a sponge. After an hour or two, rub the spot as in washing, and the paint will crumble off.

To Remove Paint from Wood.—Apply to it a strong solution of oxalic acid, when it will easily crumble off. It may be removed from glass or metal in the same way.

Cements for Glass and China.—1. Mix thoroughly an ounce of pure white lead in oil with ten grains of finely powdered acetate of lead. Apply at once, and allow the mended article to dry two weeks before it is used.

2. Rub old cheese to a fine thick paste with a little wa-

ter. Add one-fourth pulverized lime. One of the best cements for glass, porcelain, stone, and wood.

3. Burn oyster shells, pulverize fine, and mix to a thick paste with white of egg. Apply at once to the edges of the glass. Secure them tightly together until dry. Freshly burned lime will do, but is not so good. The cement must be made when used.

4. Soak Russian isinglass in water over night, to soften. Then heat until it is dissolved ; mends china and glass.

Cements for Wood.—1. In a pint of soft water dissolve 6 ozs. of best glue. Remove from the fire and add $\frac{1}{2}$ oz. of white lead, stirring it in well. Then stir in 3 gills of whisky. This cement will remain thin at all ordinary temperatures. It should be warmed and well stirred when it is to be applied. Good for wood, marble, glass, and china.

2. Dissolve a pound of glue in three pints of water. Add 2 ozs. of powdered chalk and $\frac{1}{2}$ oz. of borax.

Liquid Glue.—Fill a bottle two-thirds full of common glue. Fill the bottle with whisky. It will dissolve in a few days, when it will be ready for use. Must be kept tightly corked.

Cements for Iron.—Take equal parts of sulphur and white lead, with about a sixth of borax, mixing them so as to form a homogeneous mass. When about to apply it, wet it with sulphuric acid and place a thin layer of it between the two pieces of iron, which should then be pressed together. In a week it will be perfectly solid, and no traces of the cement will be apparent. This cement is said to be so strong that it will resist the blows of a sledge hammer.

2. Mix to a paste with vinegar 5 parts clay, 1 part salt, and 15 parts of iron filings. It will stand heat.

Cement for Stoneware.—To a cold solution of alum add plaster of Paris sufficient to make a rather thick paste. Use at once. It sets rather slowly, but is an excellent cement for mending broken crockery, eventually becoming as hard as stone.

How to Remove Rust from Clothing.—Oxalic acid will take rust or any other stain out of white goods. Dissolve a small quantity in boiling water and dip the spots in. The acid can be got at any drug store. Another way is to saturate the spots with lemon juice and spread the cloth in the sun; if it don't take out all the rust the first time, repeat the application.

To Clean Looking-Glasses.—Wash with a sponge wet in lukewarm soap-suds. Wipe dry, and rub with buckskin or a newspaper and finely powdered chalk. Polish windows in the same way.

To Cleanse the Hair.—Rub thoroughly into the hair the white of an egg. Wash with soft water until the egg is entirely removed. This leaves the hair soft and pliable. Never use alkalies or coarse soap on the hair.

Lotion for Fetid Perspiration.—Permanganate of potash, 1 dr., dissolved in half a pint of water. Wash the part twice a day. A wash of weak vinegar is quite as efficient in some cases.

Durable Whitewash.—Slack, with abundance of hot water, half a bushel of lime, stirring briskly meanwhile. When completely slacked, add sufficient water to dissolve. To this add two pounds of sulphate of zinc (white vitriol) and one pound of common salt. The last-named ingredients cause the wash to harden, and prevent cracking. If a cream color is desired, add yellow ochre. For stone color, add raw umber and lampblack.

Kalsomining Fluid.—The following is well recommended for walls: White glue, 1 lb.; white zinc, 10 lbs.; Paris white, 5 lbs. Soak the glue over night in 3 qts. of water. Add an equal quantity of water, and heat on a water bath until the glue is dissolved. Put the two powders into another vessel. Pour on hot water while stirring, until of the consistency of thick milk. Mix the two liquids thoroughly, and apply to the walls with a *whitewash* brush.

To Preserve Steel from Rust.—Cover the surface with finely powdered unslacked lime. The surface may first be smeared with melted tallow before the lime is sprinkled on, to cause it to adhere.

To Clean Leather.—Leather which is uncolored may be easily cleaned by wiping it with a sponge moistened in a solution of oxalic acid.

To Make Cloth Water-Proof.—In a bucket of soft water put $\frac{1}{2}$ lb. sugar of lead and $\frac{1}{2}$ lb. powdered alum. Stir occasionally until the solution becomes clear, then pour it off into another bucket, and immerse the garment in it. Allow the garment to remain in the solution twenty-four hours. Scotch tweed is the best material for a water-proof cloak.

There are several other methods : 1. Moisten the cloth on the wrong side with a weak solution of isinglass. When this is dry, apply a solution of nut-galls. 2. Moisten with a strong solution of soap, and then with a solution of alum. 3. Spread the cloth on a smooth surface with the wrong side up. Rub it with pure bees-wax until it is gray. Pass a hot iron over it, and brush it while still warm.

To Make Cloth Uninflammable.—1. To a quart of boiling water add 1 lb. chloride of calcium, and 1 lb. acetate of lime. Moisten the fabric in the solution, and dry.

2. Moisten the goods in a solution of phosphate of ammonia. Dry with a warm flat-iron.

Carron Oil.—Mix equal parts of linseed oil and lime water. Shake well. Good for burns.

Fire-Proof Paint for Roofs.—Slack stone-lime in a covered vessel. Take 6 qts. of the slacked lime, after it has been passed through a sieve, add 1 qt. of salt, and 1 gal. of water. Boil and skim. Add $\frac{1}{2}$ lb. powdered alum, $\frac{1}{4}$ lb. pulverized copperas. Then slowly add 6 ozs. of powdered potash. Finish by the addition of 2 lbs. of fine sand. Apply to the roof with a brush. It may be

colored as desired ; is very durable, and stops leaks in the roof.

Starch Polish.—1. Melt together at a gentle heat 1 oz. white wax and 2 ozs. spermaceti. Add a piece the size of a pea to starch sufficient for a dozen pieces.

2. Dissolve 2 ozs. of gum arabic in a pint of hot water ; bottle and cork. Add a tablespoonful to each pint of starch.

Paste.—Mix 8 parts of flour and 1 part of powdered alum with a little water. Beat out the lumps, and pour on boiling water until of the proper consistency, stirring briskly all the time. This is more adhesive than ordinary paste, and will last much longer.

To Color Black.—For 10 lbs. of goods, dissolve and boil $\frac{3}{4}$ lb. blue vitriol in sufficient water to cover the goods. Dip them three quarters of an hour, airing often. Then remove to another dye made by boiling 6 lbs. of logwood in a sufficient quantity of water for half an hour. Dip three quarters of an hour, air, and then dip three quarters of an hour more. Wash in strong suds.

To Color Blue.—For five lbs. of goods, dissolve $\frac{3}{4}$ lb. alum, $\frac{1}{2}$ lb. cream tartar. Boil the goods in the solution for half an hour. Throw them into warm water.

To Color Scarlet.—For two lbs. of goods, mix together and dissolve in sufficient water 1 oz. cream of tartar ; 1 oz. cochineal, well pulverized ; 5 ozs. muriate of tin. Boil the dye and place the goods in it. Work them briskly for a quarter of an hour, after which boil an hour and a half, stirring slowly while boiling. Wash in clear soft water, and dry in the shade.

To Color Green.—1. First, color yellow by soaking the goods in a solution made by steeping together 1 lb. fustic and $\frac{1}{4}$ lb. alum for 1 lb. of the goods. Remove the chips and add indigo, a tablespoonful at a time, until the *desired color* is obtained.

2. *Make a yellow dye with yellow-oak and hickory*

bark in equal quantities. Add indigo until the desired shade is obtained.

Liquid Bluing.—Pulverized Prussian-blue, 1 oz. ; oxalic acid, pulverized, $\frac{1}{2}$ oz. ; dissolve in 1 qt. of soft water. Use one or two tablespoonfuls to a tub, according to its size. Will not speck.

Soft Soap.—Cut fine 4 lbs. white soap in bars, and dissolve in 4 gals. of soft water by heating. Add 1 lb. of sal-soda, dissolve and mix.

Washing Fluid.—Boil together 1 lb. of sal-soda, $\frac{1}{2}$ lb. of stone-lime, and 5 qts. of water, stirring while boiling. Let it settle, pour off the clear fluid, and preserve for use in a stone jug.

Soak the clothes an hour or two in warm suds. Wring out, and soap the most dirty places. Add a tea-cupful of the fluid to a boiler half full of boiling water, and then add the clothes. It will save half the labor of washing, and will not injure the texture of the goods.

To Get Rid of Rats.—Scatter potash freely in their holes and runways. It will make their feet and mouths sore, and they will leave in disgust. Several varieties of traps are quite successful in catching them. Poisoning is not a very good plan, as the dead bodies of those which happen to eat the poison are usually left in some unobserved or inaccessible place where they undergo decay.

Tooth Powder.—To make a most excellent and perfectly harmless tooth powder, mix eight parts of precipitated chalk with one part of calcined magnesia. Flavor with a few drops of wintergreen or cinnamon oil if desired. Apply this to the teeth twice a day with a soft brush and pure soft water, or water and fine soap, and they will always glisten like ivory.

Wash for the Teeth.—1. Dissolve 1 dr. of carbolic acid with 2 ozs. of alcohol. Add this to half a pint of water. Use freely with a tooth brush. Is excellent as an application to cleanse artificial teeth.

2. Dissolve 1 dr. of permanganate of potash or soda in $\frac{1}{2}$ pt. of water. Place in a bottle and cork tightly.

Cleaning Bottles.—Small shot, pebbles, or broken charcoal, placed in a dirty bottle and shaken about with warm water and soap, will remove almost any kind of dirt. Charcoal is especially serviceable in removing unpleasant odors from bottles.

Black Ink.—2 oza. extract of logwood ; 2 drs. bichromate of potash ; 1 dr. prussiate of potash. Dissolve the logwood in 2 qts. of soft water, soaking it over night and then boiling. Then add the bichromate and prussiate of potash after pulverizing. When the solution is complete, filter, and it will be ready for use. This is a very excellent ink.

Blue Ink.—Dissolve sufficient indigo in soft water to give the desired color ; is very good for ordinary use, but will fade.

Red Ink.—Mix 1 dr. of aqua ammonia, a bit of gum arabic as large as a hazel nut, equal parts of No. 40 and No. 6 carmine, and 7 drs. of soft water. It will be ready for use in a day or two.

Indelible Ink.—Dissolve $\frac{1}{2}$ sc. of nitrate of silver in a teaspoonful of aqua ammonia. In $2\frac{1}{2}$ teaspoonfuls of soft water dissolve 1 sc. of gum arabic. When the gum arabic is dissolved, add an equal weight of carbonate of soda. Mix the two solutions and boil in a bottle placed in a basin of boiling water. When it becomes black, it is ready for use.

To Etch on Metal.—Mix two parts of muriatic acid with one of nitric acid. Cover the surface of the metal with melted wax. When the wax is cold, write or draw upon it the desired name or design, with a sharp-pointed instrument. Be careful to remove the wax quite down to the surface of the metal. Apply the acid with a brush or feather, carefully filling the outlines of the design. In a few minutes wash the acids away with water, and wipe the surface with oil after removing the wax.

Borax Wash.—Dissolve 1 oz. of borax in 5 qts. of water. This is a good cleansing wash for the hands, and is also an excellent washing fluid. Many use it for the hair. It is rather severe for the latter purpose.

To Kill Ants.—Pour into their nests hot water, lime water, or a strong solution of alum.

Bug Poison.—Mix 2 ozs. alcohol, $\frac{1}{4}$ oz. camphor, $\frac{1}{2}$ oz. turpentine, and 1 dr. corrosive sublimate. Apply to infested places with a feather.

Plant Lice.—Shower the plant with a solution of carbolic acid in water, a dram to the pint; or fumigate with tobacco smoke.

Solder for Tin.—Melt together 5 ozs. of lead and $3\frac{1}{2}$ ozs. of tin.

Solder for Lead.—Melt together 1 oz. tin and 2 ozs. lead.

Soldering Fluid.—Dissolve in 1 oz. of muriatic acid as much zinc as possible. Add $\frac{1}{2}$ dr. of sal-ammoniac.

Mending Tin-Ware.—Every house-keeper can save many dollars by mending her own pans, dippers, and basins. If a hole in a basin is to be stopped, scrape the inside of the basin just around the hole until it is bright. Dip the end of a little wooden rod in the fluid, and rub it upon the scraped surface. Now place a small bit of solder over the hole, and heat the under surface over a candle flame until the solder melts. In a minute it cools, and the hole is stopped.

To Dry Boots.—Fill them with oats at night after removing them from the feet. Set them in a warm room. In the morning, shake out the oats and the boots will be found to be dry, and will not be shrunken and stiff as they would otherwise have been.

RECIPES FOR HEALTHFUL FOOD.

Most of the following recipes are strictly healthful. We give few recipes for articles of food which would be in the *least degree* injurious, for the reason that cook books containing such recipes are already sufficiently numerous. Those who may not relish the plain dishes described, can readily so modify them by the addition of some simple condiment, as milk or sugar, as to make them palatable; but the effort of each one should constantly be to learn to relish food prepared in as simple a manner as possible, and wholly free from injurious condiments.

Gems.—Into one part of pure, cold, soft water, slowly stir two parts of the best graham flour, making the batter just thick enough so that it will not settle flat. Bake in cast-iron gem pans or patty pans in a very hot oven. Have the pans very hot when the batter is put in. By combining the several grains in various proportions, many different kinds of gems may be made.

Corn-Meal Gems.—Upon one part of fine corn meal, pour two parts of boiling water, and mix well. Bake in gem pans, in a quick oven. This makes the simplest and sweetest corn cake that can be made.

Drop Cake.—Mix wheat or rye meal with cold water to a stiff dough, stirring until well mixed, and drop with a spoon upon a hot baking tin in a hot oven. Bake until well cooked and brown. Eat while warm.

Johnny Cake.—Prepare the batter as for corn-meal gems, and bake in a common baking tin. This is known in the South and West as “hoe-cake,” “corn-dodger,” etc. In the days of open ranges and fire-places, the batter was commonly baked upon a board before the fire.

Snow Cake.—Take one part of corn meal and two parts dry snow. If the snow is moist, use less. Mix well in a cold room. Bake in gem pans, filling the pans rounding full. Place quickly in a very hot oven. If the cakes are

raw, or too dry, more snow was required. If they are heavy, too much snow was used.

Breakfast Cake.—Saturate oatmeal of medium fineness with water. Pour the batter into a shallow baking dish, and shake down level. It should be wet enough so that when this is done a little water will stand on the top. Bake twenty minutes in a quick oven. It may also be baked in fifteen minutes on the top of the stove in a covered dish.

Rolls.—Make a stiff batter with cold water, work in as much flour as will knead well, and then knead for twenty minutes or half an hour. Make into rolls one-half inch to two inches in thickness, and bake in a hot oven on a grate or baking pan dusted with flour, laying them a little distance apart. Excellent rolls may be made by kneading flour into cold graham, corn-meal, or oatmeal pudding.

Crisps.—Mix graham flour or oatmeal with cold water into a very stiff dough. Roll very thin, and bake in a hot oven. Eat while warm. Excellent for dyspeptics.

Fruit Toast.—Slice and toast cold soft biscuit. Place in a proper dish and pour over the slices hot canned whortleberries, raspberries, or similar fruit, with much juice. Eat with oatmeal crisps. Some cooks soften the toast with hot water before adding the fruit.

Fruit Gems.—Make a batter as for gems. Add a few whortleberries, chopped apples, dates, raisins, or any other fruit desired. Bake in gem pans as directed for gems.

Cocoanut Cake.—With a pint of boiled cracked wheat mix a grated cocoanut, a half pint of cocoanut milk, half a pint of dried currants or other dried berries, a quart of stewed sweet apples or boiled figs, and sufficient wheat meal to make a moderately stiff dough. Bake, in loaves, an hour and a half to two hours.

Fruit Loaf.—One and a half cups of bread crumbs—or soaked graham gems—one cup of wheat meal, one cup of

sugar, two cups of chopped apple, and two-thirds of a cup of currants. Mix thoroughly, and bake till the apples are tender. This may be eaten with or without a dressing.

Cocoanut Cookies.—One cup good wheat meal, one-half cup grated cocoanut, and one-half cup sugar. Rub these thoroughly together, then wet with a scant half cup of water—just enough to make a dough as soft as can readily be worked. Roll out to one-third of an inch, cut into shapes, and bake in a pretty quick oven about fifteen minutes. Some care is required not to bake them too hard.

Oatmeal Pie Crust.—Scald two parts of oatmeal with one part of hot water. Roll thin. It bakes very quickly, so that fruit which requires much cooking must be cooked before making into the pie. This remark, however, applies only to pies which are baked with an upper crust. This crust is very tender, and possesses all the desirable qualities of shortened pie crusts, with none of their deleterious properties.

Cocoanut Pie Crust.—Two cups graham flour, one cup grated cocoanut. Make into a stiff dough with cold water, and knead well. Add one cupful of well-boiled rice. Mix well and roll thin. This crust is very excellent.

Sweet Potato Pudding.—Grate six medium-sized, raw sweet potatoes. Add two quarts of cold sweet cider, one cup of grated cocoanut, and an equal quantity of raisins. Thicken with graham flour, beat the batter well, and bake in a moderate oven.

Cream Pie Crust.—Take equal quantities of graham flour, white flour, and Indian meal ; rub evenly together, and wet with very thin sweet cream. It should be rolled thin and baked in an oven as hot as for common pie crust.

Apple Custard Pie.—Grate sweet apples, or a mixture of *sweet* and *sour*, if preferred. Add and mix one spoonful of dry flour for each pie. Cover a deep pie plate

with crust, and add the apples. Cover the top with chopped raisins, figs, or dates.

Lemon Pie.—Two cups sweet apple sauce ; two sliced lemons ; one teacup of chopped raisins ; one raw potato, grated ; a very little corn starch and flour. Bake with two crusts after properly mixing.

Oatmeal Pudding.—Sift one part of coarsely ground oatmeal into three or four parts of boiling water, stirring five minutes or until it sets. Cover closely, and put it where it will only simmer for a half hour. Do not stir after it sets, and take it up carefully. It is somewhat improved by cooking three quarters of an hour.

Oatmeal Gruel.—Mix a tablespoonful of oatmeal with a little cold water ; pour on the mixture a quart of boiling water, stirring it well ; let it settle two or three minutes ; then pour it into the pan carefully, leaving the coarser part of the meal at the bottom of the vessel ; set it on the fire and stir it till it boils ; then let it boil half an hour and skim. It is best when cooked in a double boiler.

Preserving Grapes.—Pick carefully the later kinds of grapes. Select such bunches as are perfect, rejecting all upon which there are any bruised grapes, or from which a grape has fallen. Spread them upon shelves in a cool place for a week or two. Then pack them in boxes in sawdust which has recently been thoroughly dried in an oven. Bran which has been well dried may also be used. Dry cotton is employed by some. Keep in a cool place. In this way, grapes may be kept until long after New Year's with ease.

Another method still more efficient is to select perfect bunches, as already directed, and dip the broken end of the stem of each bunch in melted sealing-wax. The bunches may then be wrapped in tissue paper and placed in layers, or hung in a cool place, or they may be packed in sawdust.

To Keep Water Cool.—Ice is almost universally depended upon as a means of cooling drinking water in summer. The free use of iced water is harmful. By making use of the following means, the water may be kept sufficiently cool to answer all the real demands of nature ; in fact, it may be kept nearly at freezing temperature :—

Place between two sheets of thick brown paper, a layer of cotton half an inch thick. Fasten the ends of the sheets together so as to form a roll. Sew in a bottom made of similar material, making it nearly air-tight, if possible. Fill a pitcher with cool water, and cover it with the cylindrical box by inverting it over the pitcher. If the box is kept constantly wet with water, evaporation will go on so rapidly that the water in the pitcher will be kept very cool for a long time.

Water may also be kept cool by placing it in jugs and wrapping them with wet cloths.

How to Make a Filter.—Take a large flower pot or earthen vessel, make a hole one-half inch in diameter in the bottom, and insert in it a sponge. Place in the bottom of the vessel a number of clean stones of sizes varying from that of an egg to an apple. Place upon this a layer of much smaller stones and coarse gravel. Then fill the jar within two inches of the top, with equal parts of pulverized charcoal and sharp sand, well mixed. Place loosely over the top of the jar white flannel cloth, allowing it to form a hollow in the middle of the jar, into which the water can be poured. Secure the edges by tying a stout cord around the outside of the jar. By keeping a suitable vessel under the filter thus made, and supplying rain water when needed, very pure water can be obtained. It can be kept in a cool place in the summer time. It will require to be renewed occasionally by exchanging the old sand and charcoal for fresh. The flannel and sponge must be frequently cleansed.

THE
HEALTH AND DISEASES

— OF —

W O M A N .

BY

R. T. TRALL, M. D.

Author of the "Hydropathic Encyclopedia;" "Hygienic Hand Book;"
"Uterine Diseases and Displacements;" "The True Healing
Art;" "True Temperance Platform;" "Hygienic
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PREFACE.

TEN years ago, an edition of 5000 copies of this work was published in New York, and rapidly sold, since which time it has been out of print. But it has been so often called for, and seems, moreover, to be one of the desiderata of the Hygienic literature of the day, that I have concluded to revise it, and have it republished. I have made some important additions, and have corroborated the statements of the author by some pungent, and, I trust, instructive quotations from the latest medical authors on the subject of the diseases of women, and of the pernicious habits and fashionable follies which conduce to them.

R. T. TRALL, M. D.

Florence Hights, N. J., Oct. 25, 1872.

TESTIMONIAL.

HAVING carefully examined the following pages treating upon the important subject of health and diseases of woman, we bear cheerful testimony to its merits, believing it surpasses any work of the kind ever placed before the public. It points out in a clear, forcible manner the causes that are undermining the health of American women, and shows the terrible effects produced thereby upon their offspring. It portrays to young and old the sad consequences of following wrong habits of life, and the untold miseries resulting from drug medication as sustained by the highest acknowledged medical authority. We therefore unhesitatingly recommend it to every intelligent person in the land. No family should be without it, as it will prove an invaluable help in guiding the household in the paths of virtue and health.

MRS. M. A. CHAMBERLAIN, M. D.,

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HEALTH AND DISEASES OF WOMAN.

WOMAN AND THE MEDICAL PROFESSION.

THE declining health of American women, and the rapidly increasing frailty of American girls, have now become prominent topics of the magazines and newspapers, as well as of the medical journals of the day. And the diseases of woman have long been recognized as the *opprobrium medicorum* of the profession—the disgrace of medical science.

This cannot be because physicians have not had sufficient experience in their treatment; for, in all ages, medical men have had much more to do with the diseases of women than of men; and in this age, and in this country, more than three-fourths of all the practice of the profession are devoted to the treatment of diseases peculiar to women.

At a festival lately held by a medical society in the city of New York, "dear woman" was toasted in the following words: "The last best gift of God to man, and *the chief support of the doctors.*" Do you imagine that when these jovial doctors were feasting themselves full and

drinking themselves merry with the avails of this delightful support, they were also devising ways and means to render her healthy, so that she would cease to be the "chief support of the doctors?"

There are in the United States seventy-five thousand physicians, whose aggregate incomes cannot be less than two hundred millions of dollars; three-fourths of this sum—one hundred and fifty millions—our physicians must thank frail woman for; can they not well afford to compliment her in the ruby wine?

How can the doctors afford to have the women healthy? Suppose the women of our country should become reasonably hygienic in their habits of living and in their ways of doctoring, what would be the inevitable result to the profession? Who cannot see at a glance that more than fifty thousand physicians would be at once thrown out of employment, and half as many drug shops closed for want of customers? And then there would be the total loss of all the capital and time they had invested in the business and in their education. And, moreover, three-quarters of all the medical schools in the country would be useless, involving a loss of a few millions more.

But the chapter of calamities would not end here; if the women should become generally *healthy* themselves (for they would not do this

without being educated into a knowledge of the conditions of health), they would so arrange their households—their tables, their clothing, their sleeping apartments, and personal habits, that their brothers, husbands, and sons, would have much less occasion to patronize the profession, and so three-fourths of the remaining one-fourth of the medical profession would be liable to lose all they had invested in business, and subjected to the inconveniences of learning a new vocation.

Can the medical profession afford to teach women to be healthy? Shall they make this immense sacrifice for her sake, and for humanity's sake? Is it not asking a little too much of poor human nature? True, it would be a glorious thing for the world; but the world would pay nothing for it—hardly a thank you—while it pays willingly and cheerfully its millions annually to have the women dosed, drugged, poisoned, deceived, miseducated, maltreated, and ruined.

OPIUM—ALCOHOL—TOBACCO—DRUGS.

The British statesmen some years ago discovered that the opium trade, which they have forced on China at the point of the bayonet, was rapidly demoralizing and destroying the people of that nation. And it was suggested in their parliamentary discussions, that motives of justice, and equity, and humanity, and Christianity, demanded its suppression. But what answered the

government? "True enough, it is all wrong and ruinous; it is very bad for the Chinese, but we derive a revenue of twenty millions a year from it; we have got accustomed to this income, and cannot very conveniently dispense with it. Besides, our merchants have invested much money in ships to carry on this commerce." So the opium trade went on.

And the liquor trade, and the tobacco trade, in this country, are practiced on precisely the same principles. The moral sense of all mankind, the intelligent judgment of all the earth, the experience of all the ages, the teachings of science, and the declarations of the Bible, declare those traffics to be abominable and murderous. But the nation derives a revenue from them; our people have invested millions of dollars in these branches of business, and many of them have learned no other vocation, and can see no other way so convenient to earn bread or amass wealth; and so, notwithstanding it is patent to all that these infernal branches of commerce are fast ruining all the nations of the earth, and threatening the total destruction of the human race, the municipal authorities of our cities, the legislatures of our States, and the Congress of our nation, say these traffics must go on. And thus governments, whose legitimate business is to *protect* persons and property, foster, encourage, license, and *protect*, a business which enables and which author-

izes one class of their people to deprave and ruin all the others.

Shall we place the drug trade with the opium trade, the liquor trade, and the tobacco trade? Why not? It is certainly not the least of the four evils; and so far as fraud, and adulteration, and swindling, and killing, are concerned, it outdoes all of them.

Why should doctors and apothecaries be asked to relinquish a profitable business, just because it is injurious to society? Opium-dealers will not do it; rumsellers will not do it; tobacconists will not do it; and why should drug-dealers be expected to do it?

No, no. You, who get gold in the ruin of your fellow-beings, do not expect, you have no right to expect, that physicians will be disinterested, and benevolent, and self-sacrificing, in their dealings with you, until you become at least just in your dealings with others.

I say that to teach our women to be healthy, is to ruin the whole medical profession. So soon as this is done, there will not be a doctor in all the land except the woman physician and the man surgeon.

THE RACE IMPERILED.

The health of woman presents to us another most important consideration. The salvation of the human race absolutely depends upon it. She

has to develop the germ of life. It is her function to sustain, nourish, train, and educate, the future man. To a very great extent, she imparts her organic constitution, and stamps her normal or morbid conditions on her offspring. If she is unsound, her children cannot possibly be healthy.

RIGHTS OF OFFSPRING.

And has the offspring no claims—no rights? Let me say to mothers, and let me repeat with still greater emphasis to fathers—for, after all, fathers are more to be blamed in this respect—that every child that is born into the world is entitled to receive, of its earthly parents, the inheritance of a sound organization. Yet, in the present state of society, this is the rare exception instead of the rule. There is no greater sin, there can be no greater crime in all of God's universe, judged by the principle of eternal justice, than for parents to transmit to their children depraved and diseased bodies. Yet how nearly the whole world, the learned and the illiterate alike, high and low, rich and poor, with few exceptions, are wholly thoughtless, improvident, ignorant, and reckless.

As a general rule, this first and most sacred duty of human society is totally disregarded. The great majority of children are the offspring of chance. So far as any intelligent exercise of *reason on the part of parents* is concerned, they

come into the world hap-hazard. They are creatures frequently of lust, rather than love, and very often of mere sensuality in its lowest and most odious sense. And very frequently, too, they are the most unwelcome guests that could be introduced into the family circle.

A child has the right to the inheritance of *absolute health, perfect beauty, and complete goodness* of disposition. If it receive not these, it is defrauded of its birthright. And, think you, it will not have its revenge? It certainly will. There is a "law of compensation" pervading all the universe, which harmonizes all apparent discrepancies, which eventually rights all wrongs, which insures in the end penalty to everything done amiss, and reward to every good work, and which secures, ultimately, perfect justice to all. If a parent, through ignorance or viciousness, rob the child of a proper bodily structure, and if society, through heedlessness or selfishness, deprive it of opportunity of normal growth and education, so surely as there is a law in nature and a God in Heaven, it will punish that parent and afflict that society precisely to the extent that it has been wronged. The true physiologist needs but glance at the swarming, vagrant children of our cities, and the frail and puny little ones of the country, to see the operation of this law.

If the people could see this subject in its true light, and if men in authority and in influential

positions in society could clearly understand this principle; if ministers of the gospel, whose business it is to point the way to a higher and purer life; if physicians, who claim to be the conservators of the public health; and if teachers, who strive to develop harmoniously all the powers of body and mind, would comprehend this great truth in all of its bearings, our land would not teem with diseased, deformed, ill-born, and ill-bred children, educated to all manner of profligacy, and sure almost to become youthful rowdies and adult vagabonds. But they would see how vastly better and cheaper it would be to train them all to virtue, and educate them to usefulness, than it is to nurture them in evil and then provide them with penitentiaries and prisons.

RESPONSIBILITIES OF PARENTS.

All children would be beautiful if they were healthy, and they would be healthy if their parents were. And all children would be comparatively good also, if, in addition to the health of both parents at the time of conception, the mother was rendered comfortable and happy in all her domestic relations and surrounding circumstances during the period of pregnancy and nursing. A sound mind in a sound body on the part of the parents, and a life of truth and purity, are the conditions which God and nature *have appointed*.

A married couple should no more allow a child to be conceived when either of them is in a state of fatigue from a hard day's work, or in any condition of bodily exhaustion, or mental disturbance, or agitation, grief, despondency, anxiety, passion, or fretfulness, than they would allow themselves to commit murder. Yet this is done continually; it is rather the rule than the exception in civilized life. And need we wonder at the increasing mortality from still births, marasmus, and convulsions? I have known more than one first child to be born idiotic because of the drinking and feasting which celebrated the wedding occasion.

It is often said by medical writers, and it is the common observation of travelers, that American women are, as a general rule, more frail, more diseased, and more rapidly decaying than the women of any other civilized country on the globe. And this, I fear, is particularly the case with the rising generation of women—the girls. And one of the alarming signs of the times, the increasing disinclination to marry, on the part of the young men of our cities, is very justly attributable to this cause more than to all others.

AMERICAN MOTHERS.

I certainly can intend no flattery to American mothers when I say that, so far as I can learn from reading and observation, there are no moth-

ers on earth who, as a general rule, rear, and govern, and train, and educate, their children so recklessly of all considerations of health, so erroneously in respect to physiological laws, so foolishly in respect to fashion, and so ruinously in respect to consequences, as do American mothers.

This is not, however, *all* their fault. I am not going to put all the blame on her shoulders, nor, indeed, quite half of it. I blame man more for abusing her, and I blame still more the medical profession for misleading both. I regard woman as the victim rather than as the criminal, in relation to the evils I am considering. She has but little opportunity to know any better or do any better than she does. And if, perchance, some woman who has in some way become intelligent on this subject, sets up the standard of truth in her household and dethrones fashion, and attempts to live rationally, and to train up her children healthfully, and objects to give them food or drink which will make them sick, and refuses to have them swallow poisons because they are sick, ten chances to one that friends and neighbors, relatives and doctors, of all the region round about, will come down upon her with an overwhelming avalanche of reproof and ridicule, to say nothing of slang and misrepresentation.

WOMAN'S DISADVANTAGES.

It is not in woman's nature wittingly to sacri-

fice her child for her own vanity or pleasure ; she will a thousand times sooner sacrifice herself to save her child. Before we condemn her for destroying her own offspring, we must teach her how to save it ; and before we blame her for being diseased, we must teach her how, and give her the means, to become healthy.

Man, being more selfish, and taking advantage of the disabilities of woman, consequent on the function of maternity, has monopolized to himself most of the pleasant, wholesome, and profitable vocations, and all of the best educational facilities ; and thus he is enabled to develop his intellectual powers ; while woman is either made a kitchen drudge or a parlor toy. And when he has reduced her to bodily and mental inferiority, he calls her the "weaker vessel," and says, with stolid self-complacency, "Women are not capable of thinking and reasoning like men."

I blame the medical profession chiefly for woman's disabilities, follies, and infirmities. She has been misled and miseducated by it. She has been taught that she is naturally more frail and feeble and prone to disease than man ; and that she must be dosed and drugged with the most potent poisons for the most trivial indispositions.

THE MEDICAL PROFESSION *vs.* WOMAN.

How does the medical profession treat the efforts of woman to redeem herself from sickness and suffering? A few years ago, a few noble-minded women, in view of the dreadful sufferings and great needs of their own sex, and of the confessed inefficiency of the ordinary treatment of the diseases of woman, resolved to qualify themselves, so far as a thorough and *regular* education could do it, for physicians. They were bitterly opposed by the great body of the professors, and most indecently persecuted by the great body of the *gentlemen* medical students. But they persevered; and now schools are established in which women received precisely the same professional education as men, and are graduated according to law. And now the profession is becoming alarmed. They begin to see to what practical result this movement is rapidly tending. It threatens soon to take from it the means whereby it lives. The profession cannot prevent them from getting an education. It cannot control the legislation of the States so as to deprive them of diplomas. There is only one thing it can do; this is to abuse them; and this it seems resolved to do. Will this succeed? Will maltreatment silence her? Will persecution check her? We predict otherwise.

Already a Philadelphia medical society has de-

clared that its members shall not consult with women physicians. A Connecticut medical society has echoed the sentiment. A "reform" medical school has pronounced against the *policy* of educating women to the profession. The Boston *Medical and Surgical Journal* opposes woman physicians, and the Edinburgh (Scotland) Medical College has formally voted not to give any diplomas to women.

At the late meeting of the "American Medical Association" in Philadelphia, the physicians of the United States, as represented in that body of self-constituted conservators of the public health, by a majority vote, refused membership to physicians, otherwise unimpeachable, who consulted with doctors of the female sex, or with men of the African race. They even went so far as to ostracize those who taught in medical colleges where women or negroes are educated.

I do not wonder at this opposition; I should wonder if it were not so. Any physician who is sufficiently versed in the technical gibberish of the schools to write a text-book on the "Diseases of Women and Children," or to fill the chair of "Obstetrics and Diseases of Females," can safely prognosticate that, as soon as women get into the profession, a corresponding number of men will get out.

But what objection does her brother make to her as a physician? He raises no question of

competency; he does not pretend that she is not quite as successful as himself; he acknowledges that in many respects she has the advantage; he confesses that her constitutional sympathies, her intuitive perceptions, her delicate appreciations, her natural tact and her better opportunities are all in her favor. He does not, and cannot, allege a shadow of a reason why she should not administer to the sufferers of her own sex. And when the women graduates of our school give public lectures, and explain to the people in his presence and in the presence of his patients the fallacies of his doctrines, and the horrid consequences of his treatment, he does not, *and dare not*, gainsay their utterances.

He well knows that the most successful midwives and the most successful practitioners in the diseases peculiar to her sex, in all ages, have been women. But she is accused of being a *woman*! Womanhood is her disqualification!

ORIGIN OF WOMAN'S INFIRMITIES.

Let us look a little into the origin of woman's infirmities, and see precisely what relation there is between the medical profession and her manifold and increasing maladies. And to understand this subject fully, we must trace her history up from the cradle.

During the first four or five years of infancy, *the girl baby* has nearly the same advantages as

the boy baby; but, ever after, the girl is placed at a disadvantage. It is lucky, to begin with, if either girl or boy escapes a serious poisoning at the hands of the doctors before it is a month old. And if any child, in these days of almost constant dosing and drugging, lives a whole year after birth, without being maimed, marred, scarred, stunted, or deformed, by the murderous appliances of the "healing art," such child must be a happy exception to the unfortunate rule. Usually, an infant can not have a cough, a cold, a gripe, a sneeze, or a snuffle, however slight, without the doctor being called. And the doctor does—what? Point out the error in the child's management? ascertain the cause of the trouble and have it removed? instruct the mother or nurse in the laws of Hygiene? Oh! no; nothing of the sort; such *doctoring* would never pay. The profession could not live a year if it gave the mothers of sick babies good advice and withheld bad medicine. And so the doctor does—what? Why, he *poisons the little thing for life!* This is what is expected of him; it is what he is employed to do, and he does it. And here is "original sin" in the physiological, or, rather, the pathological sense. Here is the "origin of evil" in the vital domain; the first great act of disobedience which is sure, sooner or later, to bring death and many woes into the family circle.

Several thousands of young drug doctors are

turned out from the medical colleges annually to do—what? To teach the world how to avoid disease? to be the exemplars of the laws of life? to educate the people in the conditions of health? to instruct the people how to avoid the causes of disease? to preach obedience to the laws of nature? Not at all. They are as ignorant of these things as the people are. They are themselves among the chief transgressors; their precepts and their examples are only leading the world more rapidly to perdition. Grim Death has no more efficient emissaries. They go forth “poisoning and to poison.” If a baby is sick, they poison it; if it continues sick, they poison it again. If the sickness is prolonged, they multiply these poisons; and when the drug diseases supersede or supervene upon the original disease, the doctors have an unlimited field of practice before them in drugging the symptoms of the drug diseases.

One common-sensical mother or unsophisticated nurse is worth more than a regiment of young drug doctors, or old ones either, for sick babies. If any unusual pestilence—cholera, plague, or diptheria—should send to premature graves during the ensuing year, one half as many children as the doctors kill with their drug-poisons, a panic which would bring people to their prayers if not to their reason would pervade all the land.

When the boy and girl arrive at the age of *seven, eight, or ten years*, the disadvantages of a

fashionable education which regards fashion and "accomplishments" as superior to health and utility, become conspicuous. The boy is provided with mechanical tools; he is taken into the fields and woods, and made acquainted with animals and machinery, farms and workshops. He runs, jumps, climbs trees, rides horses, drives oxen, works, plays, and develops his muscles while he expands his mind in a thousand ways. Thus he observes, compares, analyzes, reflects, and treasures up useful knowledge; and thus he learns to work his way, to accomplish his purposes, to overcome obstacles, to subdue opposition, to achieve success, to develop himself.

But the little girl, what of her? She is shut up in the nursery, or seated quietly in the parlor with a doll-baby to study, and, perchance, a kitten for a companion. If she is irritable, and peevish, and sick, as she cannot help being, she is fed on candy and lozenges, and stuffed with sweet-cake. She is taught that little girls should dress up, sit still, and be pretty. She is told that it is vulgar to run and jump; that only little boys are fitted to do out-door work or enjoy out-door play; and thus she is deprived of the only possible means of acquiring a good constitution, and of giving to the mental powers a high and ennobling direction. And yet she is expected to be the mother of the race. She may be the mother of *a* race.

She is to a great extent blasted, dwarfed, and perverted, in childhood; and just to that extent must her womanhood, if ever attained, be imperfect. She is made to believe that young gentlemen are expected to act usefully, think rationally, feel normally, and do business; and that young ladies are made to be accomplished, feel amiable, follow the fashions, and get—*married*. Too often, before she is sufficiently developed for a husband she gets the *consumption*. And when, as the result of her miseducation, her intellect becomes disordered, her feelings morbid, her judgment unreliable, her disposition eccentric, and her fancies fantastic, she is complacently told by those who have made her what she is—

“Frailty, thy name is woman.”

DRESS AND RESPIRATION.

As the girl grows up to womanhood, she is hampered and trammelled with a style of dress which renders it utterly impossible for her to exercise properly or breathe freely. Heavy skirts drag down and displace the abdominal and pelvic viscera, and a “decent fit” around the waist prevents the normal play of the respiratory organs.

Says A. K. Gardiner, M. D., of New York: “So soon as the sex of the child is made evident by any external manipulations of dress, so soon does *the bodily degeneracy* commence. Look at the

dress of woman! Were man so to direct the fashion of woman's dress in order to enable him, by physical force, to overcome her and tyrannize over her, he could not more completely fetter her than she shackles herself."

You may measure any woman's available power by her breathing capacity, and her digestive power is precisely proportioned to her respiration; and the circulation and purity of blood is dependent on respiration, and nutrition is governed by the circulation; and thus the very structures of the body are dependent on the amount of air taken into the lungs.

As a general rule, the men of America are vastly better developed in the breathing apparatus than are the women; and this disproportion is greater with the people of the United States than with the people of any other nation on the globe. Contrast the full, rounded busts, the plump arms and rosy cheeks of the majority of Irish and German, and even English women in this country, with the narrow, tapering waists and "caved-in" vital organs of native American women—I do not mean *Indians*, for I have yet to see the first specimen of a narrow chest in a red woman.

It is of vastly more importance to society and to the race that woman should be well developed in the respiratory organs than it is that man should be; she has to breathe for more than herself.

While in the embryo state, the child must receive its oxygen from the air which the mother inspires. Many a strong, vigorous mother has given birth to a frail, scrofulous child, because she was so plethoric, or sedentary, that she only breathed enough for herself. If either parent is to be restrained in the vital region and deprived of the breath of life, let it not be the one who is to nourish from her own blood and impress her own organic conditions on the future generations.

The history of Miss Harriet Hosmer, the eminent sculptress, is instructive here. Her father, an eminent physician of Watertown, Mass., had lost wife and children of consumption, and fearing a like fate for Harriet, who was now the only survivor, he gave her dog, gun, and boat, and insisted on an out-door life as indispensable to health. She willingly acquiesced in her father's plans, and pursued her sports so energetically that she soon became a fearless horsewoman, a good shot, and an adept in rowing, swimming, diving, and skating. She had also other inducements to open-air exercise, for, "many a time and oft, she might have been found in a certain clay-pit, not far from the parental residence, making early attempts at modeling horses, dogs, sheep, men and women, or any object which attracted her attention."

Had Miss Hosmer been subjected to the ordinary treatment of girls or been doctored in the usu-

al method for consumptives, she would, in all probability, have perished in early life ; but, " under the regimen which her father so wisely devised for her, she gradually acquired health and strength, and has reached the years of mature womanhood with a well-developed and robust body, and with a mind full of earnest purpose, noble ambition, and the most untiring energy and perseverance."

If we could induce all of the fathers and mothers of our country to dismiss all of their drug-doctors, and to give their children a physiological education, those ever-present and still increasing pestilences, scrofula and consumption, would nearly disappear in the next generation, and entirely, in another.

DRESS AND THE SEXUAL FUNCTIONS.

As self-preservation is the first law of nature, those parents who damage their own constitutions and waste their vital stamina by unhygienic habits, dissipation or poisonous drugs, deprive their offspring of a proper organization. Many persons, perhaps a majority, seem to suppose that it makes little difference with offspring what they do to themselves—that individual life and health have little or nothing to do with the reproductive function. But it has everything to do with it. Individual life must first be provided for, and if vitality is exhausted, or vitalizing

resources deficient, it is the offspring that suffers most.

The disastrous effects of fashionable dress on the sexual organs and functions directly, and on the integrity and welfare of the race indirectly, is a subject on which physiologists have but one opinion, and on which medical men of all schools agree.

I quote the following words of fearful import, from the latest standard work on the diseases of women; a work just published by Henry A. Lea, of Philadelphia. The author is Professor T. Gaillard Thomas, M. D., of New York. Dr. Thomas says (page 58): "The dress adopted by the women of our times may be very graceful and becoming, it may possess the great advantages of developing the beauties of the figure and concealing its defects, but it certainly is conducive to the development of uterine diseases, and proves not merely a predisposing but an exciting cause of them. For the proper performance of the function of respiration, an entire freedom of action should be given to the chest, and more especially is this needed at the base of the thorax, opposite the attachment of the important respiratory muscle, the diaphragm. The habit of contracting the body at the waist by tight clothing confines this part as if by splints; indeed, it accomplishes just what the surgeon does who *bandages* the chest for a fractured rib, with the

intent of limiting thoracic and substituting abdominal respiration.

“As the diaphragm, thus fettered, contracts, all lateral expansion being prevented, it presses the intestines upon the movable uterus, and forces this organ down upon the floor of the pelvis, or lays it across it. In addition to the force thus exerted, a number of pounds, say from five to ten, are bound around the contracted waist, and held up by the hips and the abdominal walls, which are rendered protuberant by the compression alluded to. The uterus is exposed to this downward pressure for fourteen hours out of every twenty-four; at stated intervals being still further pressed upon by a distended stomach.

“In estimating the effects of direct pressure upon the position of the uterus, its extreme mobility must be constantly borne in mind. No more striking evidence of this can be cited than the fact, that in examining it by Sim’s speculum, the cervix is thrown so far back into the bottom of the sacrum as to make its engagement in the field of the instrument often very difficult, and that attention to this point in the arrangement of the patient will at once remove the difficulty. While the uterus is exposed by the speculum, it will be found to ascend with every expiratory effort, and descend with every inspiration; and so distinct and constant are the rapid alterations of position thus induced, that in operations in

the vaginal canal the surgeon can tell with great certainty how respiration is being affected by the anæsthetic employed. An organ so easily and decidedly influenced as to position by such slight causes must necessarily be affected by a constriction which, in autopsy, will sometimes be found to have left the impress of the ribs upon the liver, producing depressions corresponding to them.

“No one will charge me with drawing upon my imagination, even in the remotest degree, for the details of the following picture; for a little reflection will assure all of its correctness. A lady, who has habitually dressed as already described, prepares for a ball by increasing all the evil influences which result from pressure. Although she may be menstruating, she dances until a late hour of the night, or rather an early hour of the morning. She then eats a hearty supper, passes out into the inclement night air, and rides a long distance to her home. This is repeated frequently during each season, until advancing age or the occurrence of disease puts an end to the process.

“A great deal of exposure is likewise entailed upon women by the uncovered state of the lower extremities. The body is covered, but under the skirts sweeps a chilling blast, and from the wet earth rises a moist vapor that comes in contact with limbs encased in thin cotton cloth, which is *entirely inadequate* for protection. It is not sur-

prising that evil often results to a menstruating woman thus constantly exposed."

SHOULD FASHIONABLE WOMEN MARRY?

The work of Dr. Thomas is intended as a text-book for physicians. But the following words, delicate or indelicate, ought to be read by every young person in the land who contemplates matrimony:

"To a woman who has systematically displaced her uterus by years of imprudence, the act of sexual intercourse, which, in one whose organs maintain a normal position, is a physiological process devoid of pathological results, *becomes an absolute and positive source of disease*. The axis of the uterus is not identical with that of the vagina. While the latter has an axis co-incident with that of the inferior strait, the former has one similar to the superior. This arrangement provides for the passage of the male organ below the cervix into the posterior cul-de-sac, the cervix thus escaping injury. But let the uterus be forced down, as it is by the prevailing styles of fashionable dress, even to the distance of one inch, and the natural state of the parts is altered. The cervix is directly injured, and thus a physiological process is insensibly merged into one productive of pathological results. How often do we see uterine disease occur just after matrimony, even where no excesses have been commit-

ted. It is not an excessive indulgence in coition which so often produces this result, but the indulgence *to any degree* on the part of a woman who has disturbed the natural relations of the genital organs."

All that Dr. Thomas affirms or implies is fully corroborated by other authors. In a work on Woman and her Diseases, by the late Professor Charles D. Meigs, of Jefferson Medical College, Philadelphia, the author makes the remark that, the pressure resulting from prolapsus of the uterus for half an inch often produces intolerable agony.

DRUGGING AT PUBERTY.

. If the girl survive her infantile drugging, her mal-training and her miseducation, and grows up to womanhood, the disadvantages of false fashions and the evils of a false medical system follow. She is imperiled at every step. At the period of puberty an important change occurs in the development of the organism; she becomes fitted for another range of functional processes, and is at this time liable to periodical indisposition. These ailments—difficulties in menstruation—are usually trifling, and are caused mainly by sedentary habits, dietetic errors, especially constipating food, overexertion, colds, &c. A little proper attention to diet, exer-

cise, ventilation, bathing, &c., would, in almost all cases, remove them in a short time.

But, instead of this, the doctor is called upon, and emmenagogues, or "forcing medicines," are resorted to. The patient is sorely and sadly damaged with the preparations of iron, mercury, iodine, antimony, and opium, or other narcotics, when a warm bath or a fomentation, with rest and quiet for a day or two, were all that nature required. And here is the origin of many distressing chronic diseases of the reproductive organs, which often render the patient infirm and miserable for life. The extensive and increasing prevalence of uterine diseases and displacements is attributable to the drugs administered for the trivial ailments which attend the early stages of the menstrual effort, more than to all other causes combined, with the exception of fashionable dress. I have had scores of bedridden women to treat, whose long years of chronic disease, uterine inflammation and ulceration, prolapsus and other displacements, utter helplessness and dreary future, were all and wholly owing to a few weeks' drugging at fifteen or sixteen years of age.

I have never found any difficulty in speedily overcoming all the disorders of incipient menstruation by means of hygienic appliances, when all drugs were kept out of the way.

SCIENTIFIC DRUGGERY.

People are little aware of the horrible mischief which is produced by the ordinary *scientific* treatment of the diseases of woman. A brief glance at the authorities may shed more light on the terrible delusion which prevails here than a long argument; all can understand facts, though few may appreciate logic. Let us see precisely what are the *remedies* which are recommended by the standard authors, and approved by the text-books of medical schools.

One of the late standard authorities is "The Disease of Females, by Fleetwood Churchill, M. D., F. R. S.," and it reflects very fully and very fairly the prevailing practice of the profession.

It should be remarked that all of the *maladies* under consideration are conditions of weakness and obstruction—so recognized by all authors. By whatever name the disorder may be known in the nosological arrangement, or by whatever cause it may have been produced, its essential elements are obstruction, or debility, or both. Well, then, what shall the medical man do to remove obstructions and invigorate the functions? Churchill recommends for—

Amenorrhœa.—Bleeding, leeches, cupping, blisters, aloes, assafetida, wine, iodine, ergot, carbonate of iron, copperas, metallic iron, madder, *strychnine*, cantharides, turpentine, savin, aconite.

Vicarious Menstruation.—Leeches, cupping, blisters, muriatic acid, aqua fortis, oil of vitriol, aloes, iron, opium, sugar of lead.

Dysmenorrhœa.—Bleeding, leeches, cupping, blisters, caustics, opium, scarifications, morphine, henbane, poison hemlock, camphor, Indian hemp, acetate of ammonia, ergot, alcohol, preparations of iron, zinc, tincture of Spanish flies, borax, hellebore, senega, snake root, salts, mercury, iodine, tartar emetic.

Menorrhagia.—Bleeding, leeches, cupping, opium, sugar of lead, ergot, Indian hemp, ipecac, blue pill, elixir vitriol, sulphuric acid, nitric acid, hydrochloric acid, iron, copperas, logwood, drastic purgatives, gallic acid, oxide of silver, nettle juice, turpentine.

Cessation of Menstruation.—Leeches, blisters, issues, setons, purgatives, hydrochlorate of ammonia.

Chlorosis.—Blisters, mercurial inunction, rhubarb, aloetic purgatives, ammonia, metallic iron, copperas, iodide of iron, chalybeate spring water, tannate of iron, citrate of iron, lactate of iron, proto-muriate of iron, hydrochlorate of iron, blue pill, henbane, mineral tonics generally, vegetable tonics generally, glauher salts.

Leucorrhœa.—Leeches, cupping, blisters, balsam, copaiba, copperas, muriate of iron, ergot, logwood, cubebs, colchicum, crab's eyes, Spanish flies, conium, iodine, opium, henbane, lunar caustic.

Irritable Uterus.—Leeches, cupping, blisters, scarifications, henbane, deadly nightshade, camphor, assafetida, mercury, arsenic.

All of these prescriptions amount to nothing more nor less than an indiscriminate routine of the most deadly drugs and destructives to be found in the *materia medica*. But the great question back of all this is, Do these things cure? We have the testimony at hand which settles this question in the negative.

SCANZONI vs. CHURCHILL.

There has recently been issued from the press an elaborate work—a work of nearly seven hundred pages, on “The Diseases of the Sexual Organs of Woman,” by F. W. Von Scanzoni, Professor of Midwifery and Diseases of Females in the University of Wurzburg, Counselor to His Majesty the King of Bavaria, Chevalier of many Orders, translated from the French of Drs. H. Dorr and A. Socin, and annotated with the approval of the author, by Augustus R. Gardner, A. M., M. D., Professor of Clinical Midwifery and the Diseases of Woman, in the New York Medical College, author of “The Causes and Curative Treatment of Sterility;” editor of “Tyler Smith’s Lectures on Obstetrics;” etc.

The work of Dr. Scanzoni is the largest and the latest European work which the medical profession has given to the world on the diseases

of woman; and the imposing parade of authorship ought to satisfy the most incredulous that the statements of the author are entitled to respectful consideration.

Well, what does the learned professor, who has had so large an experience in the treatment of the diseases we have named, say of the ordinary remedies? I extract his testimony in relation to a single one of these ailments, *Hysteralgia*. It is in the following words:—

“We have almost exhausted all the series of medicaments recommended in the books of modern authors; narcotics in large doses; powerful purgatives, iron, mercurials, quinine, arsenic, and many other means we have tried *without the least result*. Topical applications have been no more useful. We have omitted neither deep scarifications of the mouth of the womb, so much recommended, nor the applications of leeches, nor the dilatation of the cervical canal, by means of sounds and prepared sponge; the introduction of narcotic agents or pieces of ice into the vagina; lavements of the tincture of opium and the extract of belladonna, etc., etc., *but all without relief*. Only *once* we produced *some* relief to a patient by the local application of the fumes of chloroform; but this good effect *was not of long duration*.”

Could any commentary add force to this stinging condemnation of the popular practice?

Well might Dr. Ramage, of the London Royal College, pronounce the whole system of drug-medication a "burning shame to its professors."

We must, however, in candor, acknowledge that, within a few years, the evidence of drug-medication has been somewhat investigated, especially with American physicians, and that the later authors recommend drug poisons in less variety and diminished quantity. But whether this improvement has resulted from the progress of Homeopathy, the diffusion of hygienic intelligence, the disinclination on the part of the patient to swallow the drugs, or the observation of their disastrous consequences on the part of the drug doctors, or of all of these influences combined, we need not speculate. Humanity's hope is that this step in the right direction will be succeeded by other similar ones until the blessed ultimatum of NO DRUGGERY is reached.

But, on referring to the treatment of menstrual diseases, as explained in the recent able work of Dr. Thomas, we see there is still room enough for improvement, as the frightful list of toxicological agents which he recommends will show. They are as follows :—

For Dysmenorrhœa.—Colchicum, guaiac, bleeding, preparations of iron, Indian hemp, hydrate of chloral, belladonna, assafetida, opium, mercury, iodine, nitrate of silver, carbolic acid.

For Menorrhagia.—Elixir vitriol, opium, sul-

phuric acid, gallic acid, ergot, Indian hemp, preparations of iron, alum, tannin, mercury, bleeding, iodine, nitric acid, muriatic acid.

Amenorrhœa.—Bleeding, preparations of iron, strychnia, quinine, aloes, myrrh, rue, savin, ergot.

Leucorrhœa.—Bleeding, persulphate of iron, alum, tannin, oak bark, zinc, lead.

Chlorosis.—Arsenic, strychnine, quinine, saccharated carbonate of iron, iron by hydrogen, bitter wine of iron, potassa, wine, whisky, malt liquors.

It is a "poor pathology, and worse practice," that can unite the standard medical authorities of the world in prescribing *arsenic, mercury, strychnine, iron*, and bleeding, for nearly all the ills that woman's flesh is heir to. Was there not as much truth as poetry in the declaration of Professor Oliver Wendell Holmes, M. D., which so astounded and confounded the Massachusetts Medical Society that "mankind have been literally drugged to death"?

DR. PRESCOTT ON DRUGGERY.

After a lecture to ladies, in Boston, in March, 1862, I called on the venerable Dr. Prescott of Farmington, Me., who happened to be present, to state the conclusions of his experience. He readily responded, and stated that in reviewing the results of an extensive practice in all forms of diseases of women, he could not ascertain that a

single case of many thousands had ever been cured or materially benefited by drug medication, either in his own practice or in that of his professional brethren. On the contrary, multitudes had been sadly damaged, and many killed outright. Dr. Prescott is known throughout New England as a physician of large experience, and as a man of irreproachable integrity. Twelve years previously he repudiated druggery, and has since practiced the hygienic system.

DRUGGING IN ACUTE DISEASES.

But in chronic diseases, in which the patient may be dragged toward death for five, ten, or twenty years, and "still live," the fatal tendency of the practice cannot be very well understood by the non-professional people. They are very apt to think, and generally do think, that the very medicines which have produced all of their maladies, after the first one, and ruined their constitutions, have really saved their lives a dozen of times. And the more they are damaged and diseased by the drug-poisons, the louder the deluded victims clamor for more.

Let us see, then, how drug medication works in acute diseases, where death or recovery must be determined in a few days; and for an illustration, I select the disease called *puerperal fever*. There is much discrepancy in the profession respecting the "seat" and *pathology*—as it is called

—of this disease; but all are agreed that it is essentially an acute inflammation of some portion of the abdominal or pelvic viscera or structures, with an accompanying fever. But this concord in nosology does not lessen the discord in therapy, for two exactly opposite methods of treatment are recommended by the highest medical authorities. Professor Alonzo Clark, M. D., of the New York College of Physicians and Surgeons, earnestly advises active stimulation, while Professor Charles D. Meigs, M. D., of the Jefferson Medical College of Philadelphia, as strenuously insists on copious depletion. The stimulating plan consists of opium, brandy, quinine, calomel, etc., internally; and hot flannel, turpentine, etc., externally. The depleting plan consists of bleeding, salts, veratrum, digitalis, etc.

Now, if one of these methods of treatment is right, the other is certainly wrong. But the exact truth is, they are both wrong. The patient has a much better chance to live under no treatment than under either plan. And the fatality attending the disease—more than one-half the cases terminating in death—is, at least, presumptive evidence against both kinds of medication.

PROFESSOR GILMAN ON PUERPERAL FEVER.

And here the testimony and experience of Professor Gilman, of the New York College of Physicians and Surgeons, are valuable and significant.

In a classical lecture to his medical class, in the winter of 1862, Dr. Gilman said :—

“Mild cases will recover under any treatment ; severe cases die under all treatment. You are therefore justified in trying any plan you can think of. In Bellevue Hospital, twenty-two out of twenty-three patients have died. In the Paris and London hospitals, seventy-five per cent die. One physician had ninety-five cases, and *lost them all.*”

This statement concerning the mortality of this disease, so far as the Parisian hospitals are concerned, is corroborated by Anna Inman, M. D., a graduate of the Hygieio-Therapeutic College, who spent a year in the hospitals of that city.

Professor Simpson, of Edinburgh, Scotland, states, in *Braithwaite's Retrospect* for January, 1861, that three thousand mothers die annually in England and Wales, during the lying-in period, and a majority of them of *puerperal fever*.

With regard to the treatment of the disease, Dr. Gilman recommends opium, not because he has any faith in it, or in anything else, but because he can administer it with “less of the *blackness of despair.*” He recommends, also, hot poultices, but objects to bleeding. He regards turpentine as exceedingly pernicious and distressing. He would rather keep the patient under chloroform. He condemns calomel. He says *that veratrum* will reduce the pulse from 140 to

100, but in a few hours the *patient is dead*. Such facts and figures require no comment. If the reader cannot understand the lesson taught in their naked presentation, he would not believe though ten thousand should rise from their graves, and declare themselves to have been the victims of

“The deadly virtues of the healing art.”

DRUGGING DURING PREGNANCY.

But if the woman escapes with dear life the ailments incident to puberty, other perils are before her. In the common order of events, the matrimonial relation is formed. Then come childbirth and nursing, with all their joys and sorrows. Lucky is the woman who can, on these occasions, escape the doctor's lancet and drugs. During pregnancy, she usually suffers more or less of nausea, cramps, constipation, vertigo, etc., for which she is bled, physicked, and narcotized, predisposing her to hemorrhage, milk-leg, broken breast, and other *sequelæ*, and multiplying the occasions for taking more medicines.

DRUGGING DURING THE LYING-IN PERIOD.

After confinement, the majority of women are troubled (and no wonder) more or less with indigestion, constipation, sour stomach, flatulence, sore mouth, sick headache, etc., for which chalk,

soda, saleratus, magnesia, lunar caustic, bismuth, blue pill, etc., are prescribed. And now the medicines are doing a double work of mischief. These drugs which she is continually taking into her system, under the name of medicine, deprave the blood, vitiate all of the secretions, and poison the very fountain whence the new-born being derives its nourishment.

These drug poisons must be expelled. The living system gets rid of them through every available channel. And that portion which passes off with the milk often destroys the life of the nursing infant, or renders it a puny, feeble thing for life.

So much for the child. It must be at all times liable to canker, colic, humors, rashes, convulsions, and death, so long as its mother is continually taking into her system that which contaminates and impoverishes the only source of its subsistence.

CHRONIC DRUG DISEASE.

But if the mother survives the terrible ordeal which a false medical system imposes on her, there is yet trouble enough in the future. The dosings of infancy, the druggings of puberty, and the poisonings of her maternity, have laid the foundations for innumerable and nameless chronic diseases; and now these must be doctored *secundum artem*. And thus medical science has laid

the foundation for an extensive practice in the healing art—provided the patient lives long enough.

In due time, the woman comes to be regarded as a *confirmed invalid*. And no sooner is she “cured” of one malady, than another “sets in.”

How strange that some new disease is always ready to “supervene” so soon as the existing one is “subdued!” Her aches and pains, and “sinking spells,” and flutterings, and *gonenesses*, and short breathings, and palpitations, and dragging sensations, and nervousness, require, in the judgment of the family physician, a course of tonics, nervines, and stimulants, and quassia, carbonate of ammonia, assafetida, castor, musk, valerian, spices, aromatics, phosphate of iron, or iron-by-hydrogen, wine, brandy, porter, ale, lager beer, etc., etc.

She is also put on the medico-slop diet of the pharmacopœias—fed on such delicate abominations as panada, starch puddings, beef tea, mutton broth, oyster soup, chicken gravy, buttered toast, and sugar nick-nacks. In a word, instead of being nourished and strengthened, she is merely stuffed and stimulated.

All this makes a bad matter worse; and at length the doctor, having treated the *general dyspeptic condition* for a few months, or a few years, looks a little deeper into the case, and finds out that the patient has a *torpid liver*. Then come

calomel and opium, perhaps blue pill again, to "touch up" the hepatic function, with henbane, or conium, or morphia, to quiet the irritation.

Well, in due time the torpid liver is "cured," or its action so depressed that it ceases to make any further resistance to the medicines, and now the doctor discovers that *jaundice* has "set in." Verily it has. And the drugs are just what have set it in. But this jaundice must be "treated;" and so the persevering physician doses it, or the patient, with a combination of "alteratives"—antimony, hydriodate of potassa, yellow dock, bitter sweet, blue flag, mandrake, black cohosh, corrosive sublimate, iodine, and arsenic.

And thus another set of poisons are sent into the vital domain, with the inevitable result of another set of drug diseases. Soon, another diagnosis is made, and the disease is pronounced *kidney complaint*. This is medicated with leeches, cuppings, salts, antiphlogistics, diuretics, alkalies and counter irritants, and the next phase of the malady is said to be *nervous debility*. And again the patient must be put on tonics, stimulants, and nervines, as lunar caustic, phosphorus, ammonia, extract of hops, cascarrilla, myrrh, hy pophosphites, preparations of iron, camphor, ether, spirits of nitre, compound spirits of lavender, golden seal, unicorn, wormwood, thoroughwort, skunk cabbage, etc., etc.

When the sensibility of the nervous system is

sufficiently subdued, the nervous debility is as *subdued* also. The disease is "cured," though the patient is nearly killed ; but no sooner is the cure achieved than (how unfortunate !) still another disease "supervenes." Now the muscular system gives out ; the back becomes weak, and the limbs tremulous. The kind and ever-faithful physician now diagnosticates *spinal irritation*. Still he is not without hope for his patient. The resources of his art are immense. There are in the apothecary shop at least one thousand drugs which he has not yet administered, and there are numerous processes which he has not yet brought into requisition. Why should he be discouraged ? So long as there is life there is hope—at least of making a bill.

Blistering, cupping, leeching, scarifying, pustulations, caustics, issues, setons moxa burnings and the actual cautery, are the *scientific* remedies for spinal irritation.

The marring, and scarring, and haggling, and mangling, finally *overcome* the spinal irritation, and then we come to the end of the chapter, which is *neuralgia*.

Neuralgia is regarded as incurable. But there is one consolation—there are no more diseases to "set in." The patient has got below the range of their action, and hence can not be "attacked" by them. Her vitality is too low to respond to morbid causes, hence they may remain in her

system without any special effort to get rid of them. She cannot, therefore, have any particular disease known to the nosology, but she can be very wretched.

The doctors can cure almost everything except neuralgia. We have seen how effectually they cure dyspepsia, liver complaint, jaundice, kidney disease, nervous debility and spinal irritation, but neuralgia is peculiarly a "medicorum opprobrium." Yet medical science does not wholly despair, it can still "alleviate the symptoms." For what did "nature provide" morphine, quinine, stramonium, belladonna, prussic acid, veratrum, aconite, chloroform, digitalis, henbane, ratbane, dogbane, fleabane, and all the banes, venoms and viruses, all the drugs and die stuffs, and dregs and scum of the mineral, vegetable, and animal kingdoms, except to quiet pain? And so long as the poor patient is dosed with narcotics and depressants below the point of susceptibility, she may be kept oblivious of misery. Has not medicine been entitled *the art divine*? I fear the Irish doctor was not far wrong when he presented a bill to his wealthy neighbor: "To curing your wife till she died."

And now after medical skill has done its best, or its worst, surgical ingenuity exhausts itself in vain efforts to repair the damages occasioned by bad living and worse doctoring. The uterine organs become permanently congested, relaxed, and debili-

tated, ulcerations occur, excrescences form, and displacements result.

These are treated indiscriminately with astringents, caustics, pessaries, braces, leechings, scarifyings and burnings, which, although in some cases temporary relief is obtained, never fail to aggravate the difficulties in the end.

Induration paralysis, fistulous openings, extensive inflammations, permanent adhesions, fungous excrescences, and cancerous ulcerations, are among the frightful catalogue of evils which result from these attempts to give "mechanical support" to the displaced viscera.

Not long since, I had a patient under treatment for erosive or cancerous degeneration of the uterus, the consequence of the prolonged employment of pessaries. And a few years ago, I was consulted by a lady who had a fistulous ulcer opening externally from the bowels, just below the umbilicus, through which the fecal matters were discharged, produced by wearing an "abdominal supporter."

A few years ago, I visited a young lady in Philadelphia who had been a bed-ridden invalid for fifteen years, in consequence of a retroversion of the womb. Her father was wealthy, and had employed the most eminent physicians and surgeons of that doctor-making city, who had invented a bureau drawer full of "supporters" for the displaced organ; and they had "toned her

up" with tonics, and "quieted her down" with nervines, and nourished her on "blood food" preparations of iron, until her muscular system was as limsy as a wet rag. And these are but examples of hundreds whose cases have come under my observation and treatment.

I cannot pursue this branch of my subject here. Those who would have fuller information are referred to my larger works, "Pathology of the Reproductive Organs," and "Uterine Diseases and Displacements." The limits of this work will only enable me to show the errors and absurdities of the prevailing medical system and indicate

THE BETTER WAY.

If I should succeed in inducing all who are afflicted with the maladies under consideration to abandon drug-medication of every kind, at once and forever, leaving them in all other respects to the same influences, I should be the means of saving many lives and an incalculable amount of suffering; but I propose to do more. Almost all of these ailments are readily curable by hygienic appliances. The exceptions are very few, and confined almost wholly to the cases in which the patients' vitality has been nearly all drugged out of them. Indeed, I seldom find any serious difficulty in managing the cases, so far as the *original maladies* are concerned; but it not unfre-

quently happens that the drug-poisons have made such ravages on the constitutional stamina, that the patient, although capable of being rendered comfortable, can never be made vigorous. These patients often come to us with only the *remains* of a shattered organism, and seem to expect that we can, by some marvelous, if not miraculous, "cold-water" process, reconstruct them as good as new.

But this can not be done. Vitality once lost can never be regained. Says Professor Clarke, of the New York College of Physicians and surgeons: "All of our medicines are poisons, and as a consequence every dose diminishes the patient's vitality." Let those who have suffered a diminution of vitality one hundred or one thousand times in this way, calculate, if they can, the aggregate loss, and then let them reflect on the declaration of Professor Draper, of the New York University Medical School: "Vitality once lost can never be regained."

All that our system can do for the abused organism of these miserable sufferers is to put them in healthy conditions. We can restore them to the normal use of all there is left of themselves; and this is much. It is often the transition, as it were, from death unto life; from wretchedness unto happiness.

When I am asked what I would do or have done to a woman suffering any form of disease

peculiar to her sex, I invariably answer, First of all, *stop taking medicine*. Cease to do evil. There is not one woman in a thousand, provided she is not already death-struck, who has been in the habit of taking medicine for years, who will not improve at once on discontinuing it entirely. Many hundreds have told me the same story, and I have yet to find the first exception; and there are few adult persons who can not refer to such cases within the circle of their acquaintance.

Sometimes patients who have been drug-doctored five or ten years, leave off medicine in very despair; in other cases, their physicians become absolutely tired of drugging them, and abandon them to their fate; but I never knew nor heard of such a discontinuance of druggery that was not followed by an immediate improvement of the patient's health.

But the patient need not be limited to this merely negative advantage; she may perchance adopt the appliances of the True Healing Art, remedial even beyond her most sanguine expectations. The letters I have received from wives and mothers, who had endured half a life of disease, doctors' drugs, and misery, but who are now in the enjoyment of health, happiness, and happy homes, could be counted by thousands.

Nor is the Hygienic treatment so afflicting a dispensation as many have been led to believe. *The majority* of patients at a good establishment

are more comfortable under treatment than they could be without. It is the only place where some of them can be out of misery. The whole discipline of a properly conducted institution and the whole management of the patient are calculated to render her sensations more agreeable, and life more enjoyable. It is very true that, in the first instance, some patients suffer for a short time the deprivation of accustomed stimuli; but this is soon and amply compensated by the restoration of the normal sensations, giving a keen relish for the simplest aliments. She must abandon tea, coffee, grease and gravies, candies and confections, all forms of constipating food and all stimulating beverages. The stomach must be no longer a drug-shop, nor a common reservoir for all the unclean things and indigestible trash of the shops and market places.

Those things which have normal relations to the living system should be employed as remedial agents, instead of those materials which are incompatible with vital organs. Unleavened bread must take the place of aloes and rhubarb; good fruit must be taken instead of jalap and cream of tartar; fresh air must supersede squills and ipecac; exercise must substitute gum drops and lager-beer; sleep must be resorted to instead of morphine; pure, soft water must expel salts and antimony; bathing and friction be employed in

lieu of liniment and rubefacients, and paralyzing machinery be exchanged for vitalizing manipulations. Temperance in all things must stop the waste of vital power, and obedience to organic law arrest the premature decay of the organic tissues.

TOBACCO *vs.* WOMAN.

I cannot conclude this subject without advert-
ing very briefly to another evil whose disastrous
effects on the health of many women seem to be
very little understood. I mean *tobacco-using by
men*. I know that I am liable here of being
suspected of an attempt at exaggeration—at
straining a point—but I undertake to say that
thousands of women and children are rendered
miserable invalids, and that some are killed out-
right, by the poisonous breath and pestilent per-
spiration of tobacco-smoking-and-chewing hus-
bands and fathers.

Those who do not use tobacco are vastly more
sensitive to its influence than those who do.
They cannot come in contact with its deleterious
fumes without being more or less irritated; and
the purer their instincts, and the less gross their
habits of living, the more acutely will they feel
its injurious influence.

You know how it is with the experienced liq-
uor drinker; he can often swallow a pint of
brandy, or a quart of whisky, or a keg of lager,

a day, and still keep about, and imagine himself sober, and not be aware of any foulness of stomach or lungs, of blood or brains; yet the horrid stench of his breath may disgust and sicken one who is not addicted to the habit.

The veteran tobacco sot has so stupefied his senses, and perverted his instincts, that he can hold a quid of the filthy weed in both corners of his mouth, and a pipe or cigar between them, and find the sensations the most delightful that his gross nature is capable of realizing, when to all uncontaminated noses he is as offensive as a cess-pool. Every breath of air that a tobacco-smoking man exhales from his lungs, and every particle of perspiration that a tobacco-chewing man emits from his skin, is loaded with deadly poison. And here is the rationale of many nervous, irritable, and declining women. They seldom know, their husbands rarely suspect, and their drug doctors never imagine, what causes the trouble.

I have had many patients who had become dyspeptic, hysterical, afflicted frequently with vertigo, syncope, and various "strange spells" which I could and did readily trace to the virulent emanations of their tobacco-using "bosom companions." On putting the twain asunder for a few weeks, and subjecting the "better halves" to the proper processes of purification, they would rapidly recover health, and soon be ready to return to their loving lords to be poisoned

again in the same way. I have been obliged to offend some husbands by declaring to them that they must either get a divorce from their tobacco, occupy apartments separate from their wives, or see their wives die in a year or two of consumption.

One of the most deplorable signs of the times is the rapidly increasing prevalence of this most detestable and disgusting vice among the young men of our country. And if the American women, maids and matrons, do not soon exert themselves to persuade or shame their lovers, husbands, and sons, out of the habit of tobacco-using, the nation, if not the race, is as surely doomed as there is a law in nature or a God in the universe.

Yet if fathers smoke and chew tobacco, why should not their sons? And if fathers and sons, why not mothers and daughters? If the old use it, why not the young? If doctors and ministers smoke tobacco, why should not their patients and their flocks imitate their example? If the leaders and teachers of the people smoke, why should not the people themselves smoke, and society go to perdition in one universal tobacco smudge?

GLOSSARY.

Abdominal. Pertaining to the bowels.

Aconite. Wolf's bane ; a poisonous plant.

Alterative. That which restores healthy functions without sensible evacuations.

Alkali. A class of caustics.

Amenorrhœa. Suppression of the menses.

Anæsthetic. An agent that deprives of feeling.

Ammonia. An alkali.

Autopsy. Examination after death.

Antimony. A metal.

Antiphlogistic. Reducing ; cooling.

Astringent. Binding, contracting ; opposed to laxative.

Belladonna. A drug prepared from the deadly nightshade.

Bismuth. A metal.

Borax. A salt formed by a combination of boracic acid with soda.

Cantharides. Blistering plaster made of flies.

Caustic. A substance that when applied to flesh burns or corrodes.

Colchicum. A vegetable drug.

Cervix. The neck of the womb.

Chronic. Of long standing.

Citrate. Chemical drug, as citrate of iron.

Constipating. Crowding or cramming into a narrow compass.

Conservator. One who preserves from injury.

Conium. Poison hemlock.

Cupping. The operation of drawing blood with a cupping glass.

Cul-de-sac. A blind sack.

Cubeb. A vegetable drug.

Chlorosis. Green sickness, deficiency in blood.

Deplete. To bleed, to lower or weaken.

Diaphragm. The large breathing muscle between the chest and the belly.

Distended. Expanded.

Dietetic. Pertaining to food.

Displacement. Out of place.

Digitalis. The plant called foxglove.

Diuretic. Medicine that acts on the kidneys.

Drastic. Physicing; cathartic.

Dysmenorrhœa. Painful menstruation.

Elizir. A medicine.

Embryo. In physiology, the first rudiments of a new creature.

Emmenagogue. Medicine used to produce menstruation.

Emanation. Proceeding from.

Ergot. Blasted rye.

Fecal. Wastes discharged from the body.

Fistula. Pipe in ulcer, or narrow canal lined by false membrane.

Flatulence. Wind in stomach or bowels.

Fomentations. Hot applications.

Function. Office, action of an organ.

Germ. First principle.

Genital. Pertaining to the sexual.

Henbane. A poisonous plant.

Hepatic. Pertaining to the liver.

Hellebore. A poisonous plant.

Hemorrhage. Any discharge of blood from vessels destined to contain it.

Homeopathy. The doctrine that like cures like.

Hygienic. Healthful.

Hydrochloric. A drug used as a medicine.

Hysteralgia. A species of nervous affection.

Hygieio-Therapeutic. Treating diseases hygienically.

Inunction. To besmear, anoint.

Iodine. A medicine used as a local irritant.

Ipecac. A vegetable drug used as an emetic.

Jaundice. Disease of the liver.

Lacteal. Pertaining to milk.

Lavement. A washing or bathing, an injection.

Leech. A worm used in extracting blood.

Leucorrhœa. Discharge from uterus; catarrh.

Logwood. Drug used in coloring.

Marasmus. Wasting.

Maltreatment. Bad treatment.

Magnesia. A drug, species of earth.

Menstrual. Pertaining to the menses.

Menorrhagia. Profuse menstruation, flooding.

Morbid. Not healthy, diseased.

Morphine. Preparation of opium.

Narcotic. Stupefying.

Nervine. Acting on the nervous system.

Neuralgia. Pain in a nerve.

Normal. Healthy.

Nosological. Pertaining to the classification of diseases.

Obstetric. Pertaining to midwifery.

Obstruction. Hindrance, impediment.

Opprobrium medicorum. (Lat.) The reproach of physicians.

Organic. Pertaining to, or having, organs.

Ostracize. To cast out from social or private favor.

Oxygen. Air.

Pathology. Explains the nature and causes of disease.

Panada. A mixture of spirits and other ingredients for the

Pessary. A surgical instrument. [sick.]

Pelvic. Pertaining to the pelvis.

Pharmacopœa. A work which treats of drugs.

Physiology. Treats of functions.

Plethoric. Overfullness.

Protuberant. Protruding.

Prolapsus. Falling.

Prognosticate. To predict.

Puberty. The age at which a person is capable of begetting children.

Purgative. Physic.

Puerperal. Pertaining to childbirth.

Respiratory. The act of breathing.

Reproduction. To produce again.

Retroversion. Backward, falling back.

Rhubarb. A vegetable.

Rubefacient. A liniment.

Sacrum. Lower part of spine.

Savin. A drug.

Scarify. To cut.

Scrofulous. A constitutional disease.

Sedentary. Setting.

Secundem artem. According to rule.

Senega. Drug.

Seton. Rowel.

Sequelæ. (Lat.) Something that follows.

Sexual. Pertaining to sex.

Squills. Kind of onion used as a medicine.

Stamina. Force.

Sterility. Barrenness.

Strychnine. Medicine obtained from dog button.

Syncope. Fainting, or swooning.

Tannate. A compound of tannic acid and a base.

Technical. Specially appropriate.

Thorax. Pertaining to the chest.

Tonic. Giving tone.

Torpid. Inactive.

Toxicology. Doctrine of poisons.

Ultimatum. The last.

Umbilicus. The navel.

Uterus. The womb.

Vagina. A canal.

Veratrum. Drug.

Vertigo. Dizziness.

Viscera. Contents of the thorax, or abdomen.

Vital. Life.

6

An Essay

— ON —

TOBACCO - USING;

BEING A

PHILOSOPHICAL EXPOSITION

— OF —

THE EFFECTS OF TOBACCO ON THE HUMAN SYSTEM.

BY R. T. TRALL, M. D.,

Author of "The Hydropathic Encyclopedia;" "Hygienic Hand Book;" "The Alcoholic Controversy;" "Alcoholic Medication;" "The True Temperance Platform;" "Prize Essay on Temperance;" "Prize Essay on Tobacco;" "True Healing Art;" &c., &c.

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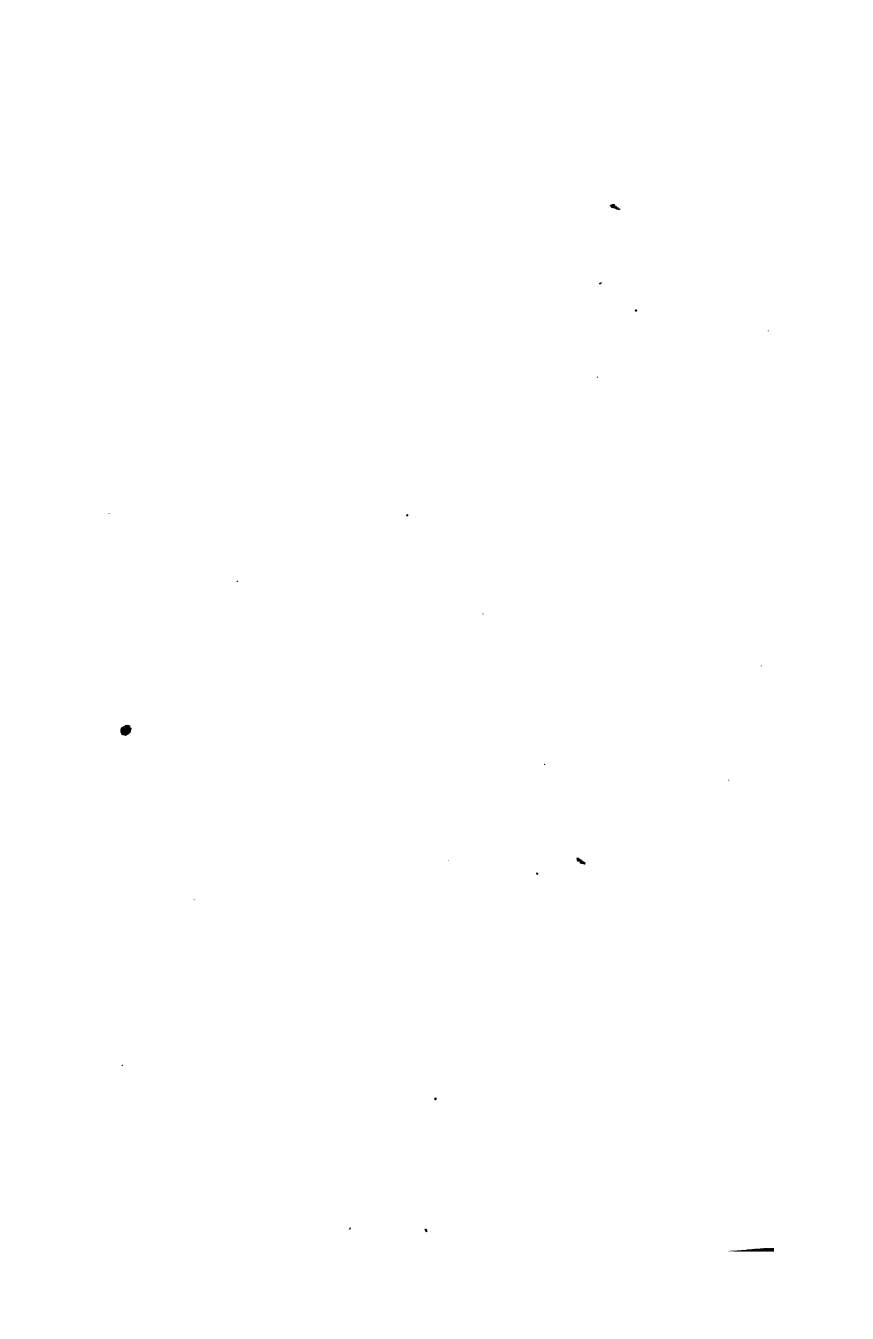
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PUBLISHER'S PREFACE.

THE wide-spread and destructive vice of tobacco-using, the well-known ability of the author, and his popularity as a philosophical writer upon all those subjects pertaining to life and health, and the importance of the subject itself, should secure a candid and careful reading of the following pages by all into whose hands they may fall.

We are happy to offer to the public in this pamphlet a philosophic exposition of the effects of tobacco-using upon the human system. Most writers upon this subject are superficial. Many deal in wit and ridicule. But tobacco slaves are not to be laughed out of so strong a habit. The writer of this work appeals to the reason and the conscience. And may his good words reach the minds and hearts of thousands.



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GLOSSARY.

- Anaphrodisiac.* That which abates sexual passion.
- Anesthetic.* An agent that deprives of feeling.
- Antiparasitic.* That which destroys parasites, or vermin.
- Antiphlogistic.* Counteracting inflammation.
- Antispasmodic.* A preventive or curative of spasms; anodyne.
- Cataplasm.* A poultice.
- Cathartic.* Purgative or laxative; popularly termed physic.
- Cholagogue.* A laxative, reputed to cause a flow of bile.
- Conium.* Narcotic poisons, as hemlock, parsley, &c.
- Cutaneous.* Pertaining to the skin.
- Depurator.* That which cleanses; generally used of the organs which expel morbid matter.
- Diaphoretic.* Inciting perspiration, or sweating.
- Diuretic.* Inciting secretion and discharge of urine.
- Emetic.* That which causes vomiting.
- Emunctories.* Organs to carry off excrements, or excrementitious matter.
- Errhine.* Exciting sneezing.
- Expectorant.* To promote discharges from the lungs or throat, by coughing, spitting, &c.
- Materia Medica.* A general term for all substances used as curatives or medicines.
- Mucous Membrane.* The membrane lining all the cavities of the body which open externally, secreting the fluid called mucus.
- Narcotic.* Having the power of stupefying.
- Nervine.* That which is supposed to act on the nervous system.

Parturifacient, or *parturient*. A medicine to promote labor, or hasten childbirth.

Pathological. Relating to the knowledge of disease.

Poison. A name for all substances which, when introduced into the animal economy, either internally or by absorption, act in a noxious manner on the vital properties or the texture of the organs.

Saliva. Spittle; *salivary glands*, secreting organs of the saliva.

Schneiderian. The membrane which receives the impression of odors; the seat of smell.

Secretion. Separating or depositing; as certain glands separate the materials of the blood into bile, saliva, &c., and deposit them in their appropriate places in the system.

Sero-mucous. From *serous*, thin, watery, and *mucous*, gummy, resembling mucilage.

Sialagogue. That which promotes the secretion of saliva.

Sternutatory. Same as *errhine*; promoting sneezing, as snuff.

Therapeutics. Relating to the treatment of disease.

Tonics. That which excites slowly.

Toxicology. Treatise on poisons.

Vascular. That which belongs or relates to vessels.

. As the first part of this pamphlet treats of the "*modus operandi*" (mode of operation) of medicines, we have prepared this brief glossary of the terms used, for the convenience of general readers.

TOBACCO - USING.

THE history of the introduction, and rapid extension of the habit of tobacco-using, among the people of the civilized nations, is, perhaps, the most sad as well as the most remarkable example of individual depravity and social delusion that can be named. Intrinsically, smoking, chewing, or snuffing, tobacco, is, unquestionably, the most filthy and disgusting vice to which respectable human beings were ever addicted; yet it has become a "second nature" in low life, an "elegant accomplishment" in high life, and a besotting indulgence among all classes of society.

In a little more than three hundred years it has enslaved three hundred millions of the human race, and is now, more rapidly than ever before, extending its baneful influence throughout our country, and in other countries. It needs, therefore, no prophet's vision to foresee that, unless the vice is in some manner arrested, and the public mind set determinedly against it, in a few centuries more all may become tobacco-users; and then the human family must inevitably go down, down—how low, none but the Infinite can tell.

To the undepraved instincts of human beings, nothing is more repulsive than the "noxious weed," in all of its parts and at all stages of its growth. But, when the vital organism is once *saturated*, so to speak, by its prolonged use—when the whole mass of blood and all the secretions are contaminated by its presence—the individual then, although fully and fearfully convinced of its blighting effects on body and mind, has seldom either the power or the inclination to rid himself of the habit of using it. He is conscious of his degradation; he knows the evil and feels the accumulating consequences, yet lacks both ability and will to achieve his own emancipation. A veritable Bohun Upas, antivitalizing in every sense, and a rank poison under all circumstances, it is ranked, by the medical profession, with henbane, strychnine, nightshade, prussic acid, opium, alcohol, etc. In a word, it is regarded as one of the most deadly agents of the drug shop.

That tobacco-using is an evil, an immense and portentous evil, physically, mentally, morally, and socially, is generally admitted. But, unfortunately, the mere admission of a wrong does not necessarily tend to remove it. Probably no person addicted to the habit of profane swearing, or to alcoholic intoxication, will hesitate to acknowledge that the habit is evil and that continually; yet while making the admission he will pursue the

habit as though it were a virtue instead of a vice. Here, as in the case of tobacco-using, conviction does not imply conversion.

Although many instructive little books and several valuable prize essays have been written and published on the subject of tobacco-using, and widely circulated among the people, their influence thus far has been almost infinitesimal compared with the magnitude of the evil. They have, indeed, in some degree retarded its blighting march in certain places, and effected the reformation of a few individuals; but, I fear, while one has been reformed out of the habit ten have been deformed into it. And one reason (it seems to me the chief reason) why anti-tobacco literature has been so almost powerless for good is, probably, the fact that the rationale of the effects of tobacco is not well understood by the people; for, certainly it is not correctly explained by the medical profession. Nor have I faith that the Anti-Tobacco Societies will ever accomplish much, although aided by the "inevitable George Trask," with his constant and vigorous appeals to the people, until this matter is thoroughly comprehended, in all its momentous bearings, by the masses.

I propose, therefore, to make a philosophical exposition of this subject the leading feature of this essay, premising that the history of tobacco, its various forms, preparations, adulterations, chemical properties, etc., and the testimonies of

eminent physicians, physiologists, philanthropists, divines, statesmen, and sanitarians (hundreds of whose names could be readily quoted), can be learned from the various works now before the public.

RELATIONS OF TOBACCO TO VITALITY. .

As tobacco is confessedly a poison, no argument is required to show that its contact with the vital organism is necessarily injurious. But the opinion is extensively entertained that we may become so accustomed to certain poisons that they are to be regarded as "necessary evils;" and that thenceforward they are more useful than injurious; and we are met on all sides with the statement that, after the individual has become sufficiently accustomed to the influence of tobacco, it occasions pleasurable sensations, with a consciousness of (at least temporarily) augmented vigor and activity of body and mind; that he is very wretched if he does not have it at stated periods, etc.; and it is difficult for him to understand that an agent whose employment seems to energize and exhilarate many of the bodily functions, and some of the mental powers, can be *so very injurious*. The delusion consists in mistaking a *wasteful vital action* for an invigorating effect. And I purpose to show, scientifically, *how* it is, and *why* it is, that tobacco and other poisons may occasion

sensuous gratification and a sense of preternatural energy, and yet be at the same time destructive to life.

THE "PROPERTIES" OF TOBACCO. ●

As a medicinal drug, tobacco is said to possess more "properties," and to belong to more classes of medicines, than any other article of the *Materia Medica*—no less than *seventeen*. It is regarded as *errhine, sternutatory, sialagogue, emetic, cathartic, expectorant, cholagogue, diaphoretic, diuretic, antispasmodic, nervine, stimulant, narcotic, anesthetic, anaphrodisiac, parturifacient, and antiparasitic*. This wide range of "remedial virtues" allies it to the most dangerous and deadly poisons known to toxicologists; for it is an approved adage with the medical profession that "our strongest poisons are our best remedies"—"*ubi virus, ibi virtus*."

I am of the opinion, however, that this time-honored maxim expresses a great error, and that it is predicated on a false theory of the effects, or "*modus operandi*" of medicines. And I think that the true solution of this problem will afford us the key to explain all of the seemingly contradictory "operations" of tobacco; to demonstrate the rationale of its effects, and to determine positively and scientifically how and why it is, under all circumstances, an enemy to vitality. And as

I can see no way of opposing the practice of tobacco-using successfully, except in a complete and philosophical exposition of the rationale of its "*modus operandi*," I shall try to make this matter plain.

Tobacco, as we have seen, is considered to possess *seventeen* medicinal properties. What is the explanation of this? *What is a medicinal property?* *Why* is tobacco emetic, cathartic, expectorant, etc.? *How* is it nervine, stimulant, narcotic, etc.? The answers to these questions will not only dissipate all the mysteriousness of the effects of tobacco, but will solve many of the most perplexing problems in medical science and the healing art.

Let the reader now bear in mind that, what is termed a "medicinal property" is not a thing, a principle, a substance, or an entity, *existing in the drug*, but is, on the contrary, *an action or process of the living system*. The language of medical books on this subject, though consistent with the prevalent theory, expresses just the opposite of the truth; hence, by reversing the proposition, we get the exact truth.

In explaining the effects (improperly called "actions") of medicines, or poisons, medical men have assumed that each drug has an inherent affinity for some part, organ, or structure of the living system, in virtue of which affinity it acts *on*, or *makes an impression on*, such part, organ,

or structure; and this affinity, or action, or impression, is termed its "property." *The truth is just the contrary.* It is the living system which acts, and not the dead drug, in their relations to each other. The "property" is in the living system; and that property is not "affinity," but *antagonism*.

We are taught in the standard works on *Materia Medica*, *Therapeutics*, and *Toxicology*, that medicinal drugs, as well as other poisons, possess, *inherently in themselves*, certain special properties, or affinities (which constitute their "remedial virtues," or in which these virtues reside), for certain parts, organs, structures, or tissues, of the vital organism; and these supposed and assumed properties are termed "elective," and "selective," because they are "exerted," or "take effect," on some parts or organs in preference to others. They "elect" whereon to make an impression; they "select" the part on which they will act; they act "preferentially," etc.. By such words and phrases (if they have any meaning whatever) the authors endow these dead, inorganic, and *actionless* substances (actionless except in the mechanical or chemical sense) with instinct, if not with intelligence. Thus, emetics are said to act on the stomach because they have a "special affinity" for that organ; cathartics are supposed to make an impression on the bowels in virtue of an "elective" affinity; diaphoretics are presumed to "se-

lect, the skin, and diuretics the kidneys" as the theater of their "operative effects;" nervines and narcotics are said to "exert their influences" especially on the brain and nervous system; stimulants, tonics, and antiphlogistics are said to make a "special impression," or exercise their special affinities preferentially on the muscular and circulating systems, etc., etc.

Such teachings reverse the order of nature. There is no affinity between poisons and the living system. *There is no chemistry in vital structures.* There cannot, in the nature of things, be any relation but that of absolute and eternal *antipathy* between vital organs and poisons. The relation of affinity, in any approved or conceivable sense of the word, between a vital structure and a poison, would be in derogation of the very first law of nature, that of self-preservation. And the idea that certain poisons, as arsenic, alcohol, tobacco, etc., can, in certain states and conditions of disease, be *employed* by the vital machinery, or in some manner *used* in the organic economy, or that they can, under any possible circumstances, "invigorate the system," or "force the organs to perform their normal functions," or "impart" anything, or do aught except occasion vital resistance and a waste of vital power, is one of the most unfortunate delusions that ever possessed the human mind. Indeed, it is *the delusion of delusions.*

I take the position that the doctrines taught in medical books (and which the medical profession has entertained unquestioned for nearly three thousand years), on this subject, are erroneous. On the popular theory of the "*modus operandi*" of medicines, no person ever has explained or ever can explain the rationale of the effects of tobacco, nor of any other drug, medicine, or poison. But, on the opposite theory, that *the living system acts on the drug*, we can explain, I think, to a positive demonstration, the rationale, not only of the effects of tobacco, but, also, of the effects of all other drugs, medicines, or poisons.

The reader must constantly keep in mind that, whenever medical writers (old school) employ the term "properties," we are to understand *effects*; and that whenever the term "affinity" is used, the proper term is *repugnance, antipathy, or antagonism*.

These definitions bring us to the gist of our controversy, *the rationale of the effects of tobacco*. What is the true solution of this problem? Simply, *the actions of the living system in relation to the drug*. Instead of the tobacco acting on the system, the system acts on the tobacco; and the various "affinities," "actions," "properties," "impressions," or "effects," so-called, of tobacco, are nothing more nor less than the various actions of the living organs in their efforts to rid the vital domain of the presence of the poison.

To illustrate—tobacco-dust (and the same is true of any other dust), applied to the nose, occasions sneezing. Medical writers attempt to explain this on the theory that the dust has a special affinity for the schneiderian membrane of the nasal organ, in virtue of which it acts or makes an impression on that particular structure preferentially; the vital action, which constitutes the process of sneezing, being simply “responsive,” or the “reaction.” Not so. The nose has a special *antipathy* to the dust, and, because of that antipathy, *sneezes it out*.

Tobacco, when taken into the mouth, occasions dreuling. What is the explanation? It is said that the tobacco acts on the salivary glands, by a special affinity for those organs, and thereby induces or compels them to secrete, or excrete, or pour out their contents. Not so. If affinity really existed it would *arrest action*. But, the truth is, the salivary glands, in virtue of their inherent law of self-preservation (which implies a constitutional repugnance to the presence of all injurious substances), excrete a sero-mucous fluid to wash away the offending material. This excretion, when copious, as when occasioned by mercury, is termed *dreuling*, or *salivation*.

Tobacco, taken into the stomach in large quantities, occasions vomiting. Here it is said to have an “elective” affinity for the stomach. Not at *all*. The vital instincts of that organ, recognizing

the presence of an enemy, make a violent effort to eject it, and the result (the action of the stomach, not of the drug) is *vomiting*.

Tobacco, taken into the stomach in smaller quantities, occasions purging, sweating, diuresis, etc. In these cases it is said to have a "selective" affinity for the bowels, skin, and kidneys, etc. Never. The living system exercises its repugnance as best it can under the circumstances, and expels the poison through the most convenient channels—the bowels, skin, and kidneys.*

When tobacco is swallowed in doses not large enough to occasion resistance or expulsion by vomiting, and also when its dust or smoke is inhaled into the lungs, the mucous membrane of the mouth, throat, windpipe, and bronchial ramifications, excretes a mucous-like fluid in self-defense. This is termed *expectoration*. And on the absurd notion that it has some sort of a "special affinity" for the mucous membrane of these parts, tobacco is said to *possess the property* of an expectorant.

* The "action" of alcohol has long been a much-discussed problem as well as an interminable muddle by the medical profession, and by temperance physiologists and chemists. Professor Youmans and others impute its injurious effects to its "special affinity for the brain;" while the same author, with unparalleled inconsistency, advocates its medicinal employment on the ground that it is a "supporter of vitality." When the *first law of vitality* is understood, such absurdities will cease to be perpetrated by scientific men.

Applied to the surface of animals or plants, tobacco occasions the death of certain insects which infest them, and is, hence, termed *antiparasitic*. The doctrine of "affinity" is not applied to the explanation of this *killing* result, but it is just as applicable as in any of the preceding cases. The effect is death, or death-tending, in all cases. And the same is true of alcohol.

In doses large enough to nauseate the stomach, tobacco occasions not only an excretion of mucus from the lining membrane of the mouth, throat, and pulmonary apparatus, but also a preternatural discharge from the liver, termed *cholorhæa*, or *cholerosis*. In this case the poison is said to exercise a preferential affinity for the liver, to act upon it specifically, etc. No. The liver is doing all it can to defend itself against the presence of the tobacco, while the tobacco is doing just nothing at all. The tobacco is just as quiescent, inert, inactive, actionless, *affinityless* and *propertyless*, in the mouth, nose, throat, lungs, stomach, bowels, blood, and brains, of a human being, as it is in the box, paper, pouch, or bladder, of the tobaccoconist. And it would remain quiescent in the vital domain forever *if the vital organs would let it alone*. But this they will not do. This they cannot do. So long as they possess life, vitality, so long they will and must war upon all noxious matters. And just here is the greatest blunder ever made by the scientific world. *This warfare,*

*by the vital organs, has been mistaken for the action of the drug.**

Tobacco is also said to possess a *parturifacient* property, that is to say, it hastens delivery, and causes abortion or miscarriage, in cases of pregnancy. This is accounted for by the ever-convenient "special affinity," in this case "exerted" on the uterus. A mistake, as usual. The uterus, in common with all vital organs, is aroused to defensive action; and as it has no power or means to act defensively, or repulsively, except by contracting its muscular fibers and expelling its contents, the result is premature, and, perhaps, violent delivery, as is the case when ergot, conium, emetic tartar, etc., are administered.

By some authors tobacco is said to be *anaphrodisiac*. By this is meant a weakening or destruction of the functions of the sexual organs. That its prolonged use is followed by this result (and the same is true of all narcotic stimulants), is very certain, and the explanation is sufficiently obvious. It is not because the tobacco has an elective or selective affinity for the sexual organs,

*And a world of delusion, and a host of bad habits are attributable to this mistake as their primary cause and parent source. It is because of this mistake that the medical profession, despite the multitudinous demonstrations to the contrary, still persist in administering alcohol as a medicine on the absurd theory that it is a "supporter of vitality."

but because their vitality has been measurably exhausted in warring against it.

But the most mysterious and complicated problems relate to its so-called *nervine*, *stimulant*, and *narcotic* "properties," or effects. It is for these effects that it is used habitually. And as these "properties" are not understood by the people, and are totally misapprehended by the medical profession, I shall endeavor to explain them clearly; and, by this means, *explain them away*.

When a large quantity of tobacco is applied to a vital organ or structure, and resisted or expelled with great violence, as by sneezing, vomiting, or purging, it is easy enough to understand the rationale. But when smaller quantities are taken, and, in gradually-increasing doses diffused through the whole organism, and expelled by a nearly balanced determination of blood to all of the outlets of the body, the explanation is not so obvious. Yet the same principle applies.

A small quantity of tobacco (of course quantity here is relative, for a small dose to one person might be a large one to another) received into the organic domain in any manner, whether by smoking, chewing, or snuffing, or by cutaneous absorption, is carried through the circulation to the emunctories, or depurating organs—the skin, liver, lungs, bowels, and kidneys. It is resisted

moderately by all of the organic instincts, the result of which is a *gentle excitement* or disturbance of the whole organism. Every structure and organ, and all parts of the vital machinery, are in commotion—in a state of morbid or preternatural activity. And, as sensibility depends on vital action, and is intensified by increased vital action (whether the cause of such action be normal or abnormal), there is necessarily, in connection with the unwonted excitement, some degree of a pleasurable sensation pervading the whole organism, amounting, often, to positive exhilaration, and which is really a slight degree of feverishness, or, in other words, *moderate intoxication*. The reason why the sensations are pleasurable instead of painful, is because, in this state of general commotion and moderate excitement, the circulation is accelerated *without being materially unbalanced*. Were the doses large enough, or so applied, as materially to unbalance the circulation and determine the vital resistance mainly to some one point or excretory organ, congestion and obstruction would occur, and then sensation would be changed to *irritation*, and there would be pain instead of pleasure;* and the pain would be pre-

*A similar condition of exhilaration often precedes the "attacks" (as they are improperly called) of yellow fever, cholera, and other malignant diseases. And the explanation is the same in both cases. As the vital powers are rallying their forces to expel the poison (whatever it may be), there is, at first, a sense

cisely proportioned to the violence of such local determination, and the degree of the consequent congestion, as we have seen in the cases of sneezing, vomiting, and purging.

But this method of provoking preternatural sensibility is not only disordering the whole vital machinery, but certainly, and inevitably, and prematurely, expending the unreplaceable fund of life. It is drawing fearfully on the capital stock of vitality, and if no fatal disease is induced, the mind must decay and the body die so much the sooner. Sensibility is like money in bank. There is just so much, and it may be drawn out and expended in a day, a year, or a century. But, unlike money, it cannot be renewed. All that we can do is to use up the original stock. We can not manufacture more, nor purchase it. If we use it judiciously—if we misuse and waste none of it—it may serve us threescore and ten, or even a hundred and twenty, years. We may enjoy normal sensibility till the last hour of existence, and then go through the great transition stage of death “like a shock of corn fully ripe.” But if we provoke its preternatural expenditure, we may

of unwonted energy and a pleasurable excitement pervading the whole system, attended, often, with unusual buoyancy of spirits, and intense mental activity. But very soon, perhaps in an hour, the patient is powerless, perhaps fatally prostrated, the intensity of the vital struggle (“reaction”) having exhausted the life-forces.

outlive our normal sensibilities, and find pain, irritation and feebleness in our organs, where should have been pleasure, sensation, and strength. This is why the devotees of liquor, tobacco, etc., lose their capacity to enjoy before they lose the capacity to exist. And in view of this principle of the organic economy—this irreversible law of nature—it may be truly said that all the immediate pleasures gained by unnatural excitement and stimulation are at the cost of permanent misery and early decline.

The excitement, disturbance, stimulation, exhilaration—call it what you will—caused by tobacco, is fever, and nothing else. *It is disease.* It is certainly abnormal action, and all abnormal action is disease; and all disease is wasteful of vitality precisely in the ratio of its violence and duration. *And vitality once lost can never be regained.*

In somewhat larger doses, tobacco is said to “exert its *stimulant* property.” In this case the poison is sent out of the system more particularly through the cutaneous emunctory. There is, therefore, an increased determination of blood to the surface, analogous to the hot stage of a mild fever. *It is fever.* In medical parlance it is “stimulation.” But fever and stimulation are equally and always pathological conditions—diseases. When the people understand that stimu-

lation is not a condition of "augmented vitality," but of *vital expenditure*, they will have a rational basis for anti-tobacco reform, and temperance reform, and health reform.

In very large doses tobacco is said to manifest its *narcotic* property. Now it is said to have a special affinity for the brain. Nothing of the sort. But if there are any two things in God's universe whose relations are pre-eminently the opposite of affinity, those two things are brain and tobacco. The true explanation of the narcotic "property" (effect) is this: As a large quantity of the poison is more immediately dangerous to life, and cannot be so well transported through the circulation to the various outlets of the body, it is resisted by a violent determination of blood and nervous energy to the first passages; so violent, often, that the brain is deprived of the supply necessary for the performance of its functions, and *narcosis, stupor, insensibility, apoplexy, anesthesia, etc., result*.*

And now we see how and why it is that a small dose of tobacco is "nervine," a larger dose "stim-

* In the second stage of yellow fever, and in the collapse of cholera, and in the early stage of the severest cases of typhoid, "congestive," and "pernicious" fevers, "reaction" does not occur. The patient becomes prostrated in the cold stage, and soon sinks and dies. These cases are precisely analogous to the *narcosis* occasioned by tobacco. Were the doses of tobacco large enough (unless vomiting occurred), the patient would die without "reaction," or "consecutive fever."

ulant," and a very large dose "narcotic." The same is true of alcohol and of opium. The facts I have adduced, let it be remembered, do not imply that there are nervine, stimulant, and narcotic properties *residing in* tobacco as separate entities, as is the common opinion; but they *do* prove conclusively that the poison is expelled in different directions by different modes of vital action, according to the condition of the various vital organs at the time, and the quantity of the poison to be expelled. And these processes of expulsion are actually diseases, though termed *exhilaration*, *stimulation*, and *narcosis*. And all disease, it should not be forgotten, no matter what its cause, *is wasteful of vitality*.

The principle I am endeavoring to establish will appear still plainer when we compare the so-called "*modus operandi*" of tobacco with that of the two agents medicinally and pathologically most nearly allied to it, viz., alcohol, and opium. Alcohol has more *stimulant* "property" (effect) compared with its *nervine* and *narcotic* effects, while opium has more of the *narcotic* "property" (effect) than tobacco. And for these reasons physicians of the drug schools prefer alcohol when the indication is to stimulate, or as the technical phrase is, "support vitality," while opium is preferred for the purpose of diminishing sensibility and allaying pain.

Tobacco, being intermediate, while many milder

articles, as castor, musk, valerian, assafoetida, etc., are less objectionable as *mere* nervines, it is never employed medicinally for its nervine "property," except in the cases of old "tobacco toppers."

As a luxury, or excitant, and for sensuous gratification, tobacco is employed almost wholly for its nervine effect.* When first taken, by a person unaccustomed to its use, unless the quantity be extremely small, its *narcotic* effect will be the only one manifested, unless some local disturbance, as emesis, or catharsis, occurs. This is because, when it first comes in contact with living tissue, the organic instincts, being unimpaired, resist it with great energy. Two or three whiffs from a cigar, or a single pinch of snuff, have often rendered the novice unconscious and helpless in less time than one minute, like an apoplectic stroke; and an ordinary quid, held in the mouth only for a few seconds, has caused the most violent retching and vomiting. Infants have been killed by a cataplasm of tobacco applied to the skin, and domestic animals have died very suddenly after swallowing a quantity that would be only a "reasonable allowance," or a "second nature" to a confirmed and veteran tobacco-user.

But after the vital instincts are subdued, so to

*And as this *nervine* effect (or "property," as it is called) is the great source of mischief and misery, we ought to understand it

— speak, that is, rendered measurably insensible and torpid by its prolonged use, a much larger quantity can be taken with only *nervine* effects; and thus, as the vitality wastes away, the quantity can be increased indefinitely, with the same manifestations of effects, but with an ever-increasing and insatiate desire for more and still more of the poison. And the more the vital powers are exhausted by its use, the greater will seem to be the necessity for stimulation, and the more ungovernable will be the morbid craving for it, and the more miserable and wretched will the poor victim be without it; so that, as is the case with its co-fiends and twin-demons, alcohol and opium, uncontrollable irritability, delirium tremens, and absolute insanity frequently occur, when the constitutionally-demoralized tobacco-user has been deprived of his customary indulgence for a few hours.

It will be seen that tobacco, like alcohol and opium, occasions seemingly contradictory and opposite effects. (This has always been a puzzle to the medical profession.) It occasions *increased* vascular action, and it occasions *decreased* vascular action; or, in professional language, it excites, or stimulates, and it depresses or narcotizes. And here, as we go along, we may solve another problem that has perplexed medical men in all ages. They have never been able to agree as to which is the *primary*, and which the *secondary*, “opera-

tion " or effect of alcohol, opium, or tobacco. One class of authors maintains that it stimulates in the first instance, and that the subsequent depression is the collapse or debility consequent on the previous excitement; while the other set contend that the primary effect ("operation") is narcotic, the stimulus, when occurring, being the "reaction" of the system against the depressing "action" of the drug. This controversy, which is, in its nature, interminable, is important in illustrating the utter impossibility of explaining any of the effects of tobacco (or any other drug) on the prevalent theory that it, in some mysterious and incomprehensible manner, acts on the living system.

Neither of the above hypotheses is true, for, scientifically speaking, they neither stimulate nor narcotize. They do not "operate" at all. They do nothing. They are done unto. But, let it never be forgotten, stimulation is one kind of vital action in relation to an injurious substance—one *form of disease*; narcosis is another form of vital action—a *different disease*, and exhilaration or *nervosis* is still a *different disease*, or manifestation of vital action. Either alcohol, opium, or tobacco, may occasion either nervine, stimulant, or narcotic effects alone, or all of them successively, according to dose and mode of administration. But these effects, let me repeat, are not the exer-

tions or actions of properties inherent in the drug, but actions and efforts of the living system to rid itself of its presence.

But it may be objected, "If these poisons do not act on the system, they superinduce an action, or occasion certain effects, and that, so long as actions and effects result, what is the difference, practically, whether the drug acts on the living system, or the living system acts on the drug?" I answer, *It is all difference*. It is the exact truth that we want. It is the *kind of action* that we should understand. We can never adequately appreciate the disastrous consequences of liquor-drinking, opium-eating, or tobacco-using, until we clearly comprehend the *why* and *wherefore*. If the action is in no sense on the part of the drug, as I maintain, but wholly on the part of the living system, then the important question arises, is this action, in any given case, physiological—useful—or is it at all times and under all circumstances, pathological—injurious?

And still another objection may be raised: Allowing that tobacco is a *positive evil*, under all circumstances, may it not be a *relative good* under some circumstances? These questions can only be answered by a reference to the general laws of vital actions.

All the actions of living beings are either normal or abnormal, healthy or morbid, physiological or pathological, productive or destructive. They

are either the processes of health, or the processes of disease. Normal vital actions relate to the growth, development, and replenishment of the organic structures. They are all embraced in the functions of nutrition and reproduction. They employ for these purposes what are termed Hygienic Agencies—*air, light, water, food, sleep, exercise, rest, etc.* They appropriate nutrient material to the formation of tissues and organs, while they deterge the system of its waste particles, or effete matters. If this balance between waste and supply is perfectly maintained, *no disease can exist*. But if any poison—tobacco, for example—is introduced into the system, this balance is disturbed; the actions become abnormal; the vital organism is sick.

Now, all morbid or abnormal vital actions relate to the expulsion of foreign or morbid materials from the body, and to the reparation of the damages which their presence has occasioned. Thus, place a little *nicotiana* (one of the “chemical constituents” of tobacco) between the eyelids, and they will quickly become red, hot, swollen, and painful—in a state of inflammation. If the drug is reapplied several times, ulceration will follow. And then, when the poison is removed by the process of ulceration, the healing process commences, and granulation and cicatrization take place. Here are manifested all the processes of disease—defense, expulsion, and reparation. *All of*

these processes are remedial; hence disease itself is "remedial effort," whether successful or unsuccessful in restoring the condition of health. And these processes, varying in different degrees, and affecting different parts and organs more or less, according to the kind and quantity of the morbid agent, or agents, constitute all of the diseases of which the vital organism is susceptible.

All diseases are caused by poisons or impurities either ingenerated because of obstructions in the depurating organs, or introduced from without. Simple fevers, when properly managed, are examples of *successful* remedial effort; consumption, cholera, hydrophobia, etc., are usually examples of unsuccessful remedial effort.

There can be no better illustration of that vexed question, the essential nature of disease, nor of that other equally mysterious problem, the "*modus operandi*" of medicines, than the effects of tobacco on persons unaccustomed to its use. Let such a person hold a quid in his mouth for ten minutes, or take a full pinch of snuff, or smoke a "fragrant Havana," and note the symptoms. Very soon he is sick all over and all through. Every fiber of his body is disturbed; every organ is morbid; his circulation is abnormal; his respiration is diminished; every tissue is acting defensively, remedially. The telegraphic nerves have instantly conveyed the impression to every part that an enemy is within the citadel of life. Ev-

ery sentinel is aroused. An alarm pervades the whole organic domain. The poison is recognized by the vital instincts to be of that dangerous kind which must be energetically resisted, and the entire vital machinery co-operates in the defensive struggle. There is war; not between two self-acting forces, but by one self-acting force against an intruding, or, rather, *intruded*, material. The muscles tremble or cramp; the mouth dreuls; the eyes weep; the stomach retches, or vomits; the bowels gripe, or purge; the skin sweats; the brain reels; the mind is confused; and, in extreme cases, the remedial struggle is so violent as to paralyze the muscles and suspend the mental functions.

No sane person will pretend that this condition of the system is anything but a state of disease. It is, too, a very complicated disease, for the reason that all parts of the vital domain are actively manifesting their repugnance to the presence of the poison.

But, suppose the person take only one-tenth of the quantity necessary to produce the above symptoms? It is as plain as arithmetic that he will have only one-tenth as much sickness. The organism will be but slightly disturbed; and the damage to his system—the waste of vital power—will be one-tenth as great. And whether one takes a full dose and is violently sick for a few hours once or twice a week, or small doses several

times a day and is *moderately sick* all of the time, the ultimate result is the same—wasting disease and premature death.

With regard to the remarkable number of “medicinal properties” attributed to tobacco, it may be pertinent further to remark that it is precisely because the poison is so inimical to life that it is ranked with so many classes of medicines. It is because so many of the vital organs are *manifestly* associated in the effort to resist or expel it that so great a number of “properties” are imputed to it. The more intrinsically pernicious a drug or poison is, the more energetically (other circumstances being equal) will the vital powers oppose and resist it; and the more generally will they *appear* to combine in their efforts to expel it; hence, the greater will be the sum or range of its so-called “medicinal properties.” Thus, as a further illustration, the preparations of mercury, antimony, iodine, and other potent drugs which are well known to be among the most destructive agents employed in medicine, are said also to possess a wide range of “therapeutic virtues,” each counting no less than ten or a dozen.

Different doses of these drugs, as is the case with tobacco, occasion very different effects, thus again proving that “medicinal properties,” as explained in medical books, are mere myths of the imagination, and have no existence in nature; and demonstrating, again, that the effects of all

drugs, medicines, or poisons, are explainable only on the theory of vital resistance. Indeed, the cure of diseases by means of drug-remedies is predicated on the principle of inducing other diseases to remove existing ones, as expressed and admitted in the maxims respectively of the allopathic and the homeopathic schools: "*contraria contraries curantur*," and "*similia similibus curantur*."

In comparing the effects of tobacco with those of alcohol, opium, and other drugs, I do not wish, in this place, either to approve or condemn the employment of these as medicines. With this matter I have now nothing to do, and I only introduce it for illustration. It is well known that persons may become so addicted to arsenic-eating that they cannot discontinue the habit without feeling very miserable; and the more they have been injured by it the more they will suffer for a time on abandoning it; yet no one pretends that arsenic is anything but a potent poison, while science shows that the relations of arsenic and tobacco to the vital organism are precisely the same.

Perhaps it may be well, before dismissing this branch of our subject, to meet a very natural objection which may be suggested in opposition to my theory of "*modus operandi*," by indicating, very briefly, the reason why the vital powers resist the presence of poisons; for it has been asked, *and may be again*, "Why should the living sys-

tem worry itself and waste its strength in getting poisons and impurities out of the system if these *do nothing* in the system? Why not let them alone?" It might be a sufficient answer to these and all similar questions to ask another: Why should the good housewife remove the dust and other impurities from her clothes and her rooms if the dirt and impurities do nothing?

It is not what poisons and impurities *do*, but what they *are*, that induces vital resistance. It is the *presence* of these things in the channels of life where they have no business, no use, that is objectionable. The tidy housewife will not, cannot, and should not, tolerate the presence in her garments or in her house of anything which is not useful—usable. If she did, the things would eventually accumulate so as to render the clothing useless and the house uninhabitable. The tenant must keep his house in order or it will not keep him. And the spirit, which, for a limited period, inhabits an earthly tenement, must keep its body in order or the body will perish.

But it may be still further objected: "Why should the living system resist and expel drugs and poisons in so many different methods? If *they* do nothing, why not treat them all alike?" I answer: All substances have *chemical* (not vital) relations to all other substance—relations of attraction and repulsion according to molecular arrangement or electrical states. Of course these

chemical relations are as varied as are the substances which manifest them; and it cannot be otherwise in the nature of things, for the good and sufficient reason that no two things are precisely the same. It is the business of vital laws to control and subordinate chemical laws. Chemistry pertains only to inorganic matter. Its processes are simply accretion and separation, or *combination* and *decomposition*. Vital processes are very different. They are *transformation* and *disintegration*.

Now, vital laws can only maintain the organic arrangement by *preventing chemical action* between the elements of the living structures and elements external to them. *While life exists, no chemical action can take place.* And vital organs resist and expel all substances which cannot be *used* in the organic domain with an intensity proportioned to the chemical affinities existing between the elements within and the elements without the vital structures; and hence the vital actions in resisting the external elements must be as diversified as are the existing chemical affinities, or as are the different forms of matter.

PHYSICAL EVILS OF TOBACCO-USING.

When we say that the influence of tobacco is *antivitalizing*, we express "the sum of all villainies" so far as its relation to the human constitution is concerned. In the slavery of mind and

body to the debasing and sensualizing habit of tobacco-using, there is no redeeming feature. In this respect it is lower in the scale of degradation than liquor-drinking; for, so long as medical men teach (false and pernicious though the doctrine is) that alcohol is a "supporter of vitality," there is some show of reason for using it, and some mitigation if not justification for the abominable traffic of the rumseller, and some palliation if not excuse for the ruinous practice of rum-drinking. * But with a single exception (to be mentioned hereafter), I have never heard a respectable physician nor an intelligent physiologist claim anything for tobacco, save the sensuous and besotting indulgence, while all pronounce the habit disgusting in the extreme, and filthy beyond the power of words to express.

Of the local effects, or special diseases, resulting from tobacco-using, medical men have noted two or three times as many diseases as they have enumerated "medicinal properties" in the "weed." Of the diseases and infirmities which *frequently* result from the habit may be mentioned cancer, especially of the lips and tongue; dimness of vision; deafness; loss of the sense of smell; perverted taste; dyspepsia; bronchitis; consumption; acne; hemorrhoids; palpitation; spinal

*And a shadow of a shade of an apology for the infernal license system.

weakness; chronic tonsillitis; anorexia; amaurosis; caries of the teeth; coryza; ozæna; epilepsy; hypochondriasis; paralysis; impotency; apoplexy; tremors; delirium; insanity; etc.

Surely this catalogue of special effects is sufficiently fearful; but these maladies are "trifles light as air" compared with the general or constitutional infirmities and disabilities. The local or special effects are manifested in comparatively few cases, while the damaging effects on the constitutional stamina are experienced in all cases.

To weaken the life-principle is to deteriorate every part, organ, structure, and tissue, of the vital machinery. It depraves the whole nature. It perverts the entire being. It debases the whole man. It degrades the image of God.

The intelligent reader hardly need be told that the habitual or even occasional use of any poison, is injurious to the vital structures. We have already seen how and why. Even when employed as medicines, in cases of actual sickness, poisons are confessedly evils; and the most that is pretended for them is, that they are necessary evils, or the least of two evils.

By lowering the tone of vitality, tobacco-using impairs the functional ability of every organ of mind and body.

The excitement, commotion, or feverishness, resulting from the use of tobacco, may be mistaken for increased energy, just as the similar disturb-

ance caused by alcoholic beverages is mistaken for imparted strength. But the malaria of the swamps, and the miasms of the cess-pools, will produce the same excitement, commotion, disturbance, or feverishness, and all are alike and always wasteful of vitality.

To deteriorate the general health is also to render every part more liable to disease. A condition of general debility predisposes to all forms of nervous disorders, while a depraved condition of the blood and secretions predisposes to fevers, inflammations, cachexies, and various forms of zymotic and blood diseases.

It is true that, while all poisons produce some effects in common, yet each occasions some symptoms peculiar to itself. Thus, of tobacco, alcohol, and opium, all occasion general disturbance of the bodily functions, general mental derangement, hallucination, intoxication, delirium tremens, etc., yet these affections are differently manifested as one or another of the above agents has been the producing cause. For examples, the derangement, intoxication, etc., occasioned by tobacco is a quiet, dreamy kind, the intellectual mind being morbidly excited, the propensities irritated, and the body preternaturally torpid. When these symptoms are occasioned by opium, they are more violent both in the stages of excitement and collapse. The unbalanced condition of the circula-

ting and nervous systems being so great, and the mental operations so confused, that the mind is often tortured with illusions, specters, fantastical forms, frightful images, horrible monsters, etc. And when the same general condition is induced by alcohol, the stage of excitement is still more violent, as the following incident (similar to many we can read every day in the newspapers), which I clip from the *Tribune* at the date of this writing, will illustrate :

“ Mary Corcoran died under suspicious circumstances on the 5th inst., and the coroner’s jury found that it was ‘intemperance and exposure, superinduced by bad treatment from her husband.’ The matter rested until Thursday, when an examination commenced. The testimony shows that Corcoran and wife were returning from a funeral, and that Corcoran was noisy, and drove too fast to suit his wife, especially in attempting to pass another team, and she remonstrated with him. At that he struck her across the mouth with his hand, one or two severe blows. The next seen of Mary, in the testimony, she is outside the wagon, walking toward home, with the wagon in advance. Corcoran then turns the team about toward Unionville, and when he meets his wife, strikes her with the butt end of his whip, and kicks her. She is next found in a gutter in front of the house, and when taken up, has convulsions, and dies in an hour or two. She had at

this time been pregnant seven months, and was therefore more easily affected by violent blows.”

This term, intoxication, is usually applied only to that condition of drunkenness in which the individual staggers, talks incoherently, becomes ungovernably violent, or helplessly stupid. But in a true philosophical sense, no one can take a particle of alcohol, opium, or tobacco, without being intoxicated—*absolutely drunk*. The individual with a quid in his mouth, or a cigar between his teeth, is as verily intoxicated, although he may keep about his ordinary business, as is the person who is raving with delirium tremens, quarreling with the lamp-post, murdering his wife, or lying insensible in the gutter.

It is an utter impossibility for the functions either of mind or body to be performed in all respects normally, when *any* disturbing cause exists within the organic domain—a principle which *all* reformers, and *all* teachers, physical or spiritual, will do well to take cognizance of. When the vital powers are engaged in fighting an enemy, so to speak, they are, just to that extent, disqualified for performing their functions normally. This principle is well illustrated in violent fevers, and in all severe acute diseases. Introduce the virus of the rattlesnake directly into the blood, and the functions of nutrition are instantly suspended. Why? Because all of the vital resources are devoted to an effort to resist and expel the poison;

and this struggle is often so violent as to destroy life in a few hours. But if the virus of the rattlesnake were taken into the mouth, stomach, nose, or lungs, in very small quantities at first, and its use steadily persisted in, its effects and "*modus operandi*" would not differ materially from those of tobacco.

It is one of the great mistakes of the medical profession, and one of the terrible delusions of the people, that certain poisons have the power to "impart" strength, vigor, or some needed element, or something useful in the way of influence or substance. And until this wide-spread delusion is thoroughly dispelled from the public mind, I have little hope for the reformation of the human race, and still less for the reformation of tobacco-users. Alcohol, opium, rattlesnake's virus, and tobacco, all and each can be so administered as to occasion the *nervine* effect which constitutes the charm and fascination of tobacco-using. But is not the association of these agents in "medicinal properties" a sufficient reason for execrating them forever from the habits of rational beings?

THE BREATH OF LIFE.

There is one view of the physical evils of tobacco-using which has never been presented distinctly by writers on this subject. I mean the effect of the habit on respiration. *Tobacco-using*

directly and fearfully lessens the breathing capacity. This is one reason why tobacco-users require more sleep than others, other circumstances being equal.* Now, the available life-force of every living being is precisely in the ratio of the development of the respiratory organs. Tobacco-using, so long as it is continued, constantly diminishes the breathing apparatus. This is easily explained. Any one, on going, on a hot summer's day, from the stifling stench of an uncleaned city, to the purer breezes of the open country, may have a realizing sense of the principle involved. His lungs will expand spontaneously. They seem to open full and deep to take in as much vital air as possible. It is a luxury to breathe. But in the dirty city, the accumulated impurities of the atmosphere are *resisted* by the pulmonary structures. The glottis partially closes to keep them out, and all of the respiratory muscles contract spasmodically to prevent their entrance. Breathing is, therefore, imperfect. And when the atmosphere is very impure, breathing is not only imperfect but painful; and in extreme cases it is entirely suspended.

Now, nothing is more offensive to the vital instincts of the respiratory organs than the odor

* The less the nervous energies are exhausted by nervines, stimulants, or narcotics of any kind, or, indeed, by pernicious habits of any sort, the less will be the amount of sleep required for recuperation.

and fumes of tobacco. Talk about stench, miasms, contagions, infections, from gutters, cess-pools, markets, stables, distilleries, tenement houses, offal gatherings, &c. ! All of them combined (let me gently hint to the Board of Health) do not equal tobacco in intrinsic repulsiveness, nor in their injurious effects on the lungs.

Let any one, uncontaminated by its use, enter a close room where several persons are smoking, or a crowd in the street where fashionable young men most do congregate, and, in a moment, he will find himself breathing short and laboriously. He will experience a sense of suffocation, and perhaps feel an inclination to sneeze, retch, or vomit. His lungs expand with difficulty. They do not kindly receive the particles of the deadly narcotic. Inhalation is feeble and imperfect, while expiration is more forcible and complete. And thus the lungs are exercised in just the manner gradually and surely to contract the diameter of the chest and permanently diminish the respiratory capacity. And as our whole population is more or less exposed to an atmosphere strongly impregnated with tobacco effluvia, the vital function of respiration cannot fail to suffer a continual deterioration. And all that is necessary to insure the ruin of the human race at no distant day is the increase of the habit of tobacco-using as rapidly as it has increased for three centuries past, or as rapidly as *it is* increasing at the present time. Frightful

examples of this possible result may be seen in droves in all of our cities and large villages.

Look at the swarms of young men—young in years, but old in vital conditions—who commenced this horrid practice in early life; and thousands do commence it even before the age of puberty. The close observer will not fail to notice in a majority of them, something unshapely and unhuman—the sharp features, angular faces, projecting shoulders, lank limbs, narrow chests, gaunt abdomens, sallow, bilious skin, and *old-manish* appearance generally. To the eye of the intelligent physiologist these young men—mere boys in the order of nature—are prematurely old, already in a decline. I have seen thousands of tobacco-using young men (of twenty to twenty-five years of age, according to the almanac) who were physiologically and for all practical purposes, older than thousands of their fathers and grandfathers were at fifty to sixty years of age. A large proportion of tobacco-using young men are dwarfed in body and mind irrecoverably; and should they unfortunately become husbands and fathers, their wives may well be pitied, while their offspring will in most cases be constitutionally frail and precociously dissolute, and many of them imbecile if not idiotic.

Many of these young men have the characteristics of dissoluteness and sensuality stamped indelibly on the physiognomy as well as the physiology. And with many of them—indeed all, to a

greater or less extent—their secretions are all morbid, their excretions defective; their whole mass of blood foul, their breath fetid, their sweat nauseous, and their whole persons offensive.

YOUNG MEN THE CHIEF SMOKERS.

As we trace the history of tobacco-using from one generation to another, it is all downward—from bad to worse. The fathers of many of the tobacco-using young men of the present day did not commence the habit until they had acquired a fair vital development. But they transmitted morbid propensities to their children who commenced much earlier in life. Hence there is frequently a striking contrast between the comparatively stalwart tobacco-using father, and the puny, fragile, stunted, and inferior tobacco-using son. It is not difficult to imagine what *their* sons must be.

It is worthy of remark that, as a general rule, persons who become addicted to tobacco-using (and the same is true of liquor-drinking) in early life, indulge more excessively than do those who commence in middle or mature life. Being more excitable, the consequent depression is greater; hence the seeming necessity for more frequent repetitions.

A few days since, I noticed an illustration of this statement, which will, I think, be found of extensive application. I was traveling from Phi-

adelphia to New York. The car in which I was seated contained just forty persons. Eight of them were young men ; twenty-two would pass for middle-aged, and ten were old persons—six men and four women. *All of the young men* (and this was *not* the “smoking car forward”) smoked cigars or huge meerschaums more than half of the whole distance ; only two of the middle-aged men smoked at all, and then cigars only on one occasion for a few minutes ; while but one of the old gentlemen befouled himself and the rest of us by smoking at all. I have made similar observations on all the leading railroads of the United States, and I am of the opinion that if any person, traveling in any part of the country by rail, steamer, ferry, or stage, will study this subject closely, he will find that the principal smoking is done by the young men. Tens of thousands of young men may be seen every Sunday standing around the corner groceries, and the thousands of tobacco shops (which find Sunday their principal business day of the week), smoking their lives away, and bestenching the atmosphere which others are obliged to breathe. And in every public gathering outside of a church, it may be readily noticed that the principal smoking is performed by the young men and boys.*

* I saw a painfully striking illustration of this fact at Bellevue Medical Hospital recently, on the occasion of the lecture on Yel-

THERMOT-ISMING AND THERMOT-LACING.

THERMOT-ISMING in young persons, has the same effect in diminishing the breathing capacity that thermot-lacing which is depending on the increase

now from by Professor William Stone, M. D., of New Orleans. The audience was largely composed of medical students, who, of all persons in the world, ought to be exempt from the vice we are considering. But no sooner was the lecture concluded than, presto, a dozen pipes and cigars were lighted in various parts of the hall, and the whole atmosphere of the place was rendered noxious and offensive in a moment; and this, notwithstanding a lecture was announced to commence in a few minutes by one of the Professors of the College. All of these smokers were among the younger members of the class. Some of them seemed to be more than twenty-five years of age. All of them, in vital development, were inferior specimens of humanity. They contrasted very unfavorably with their Professors, and were the abject slaves of a habit which unfitted them for the practice of the healing art, as much as the practice of profane swearing would disqualify a person for exercising the clerical profession. To these tobacco-using students the words of a distinguished medical writer may be applied with fearful significance :

"If we have used a moderate share of intellect and very extensive observation aright, we can find no cause of sufficient power, except tobacco, capable of producing the wrecks of manhood that often come under our professional notice. The dull, leaden eye, the trembling hand, and insecure and unmanly step, the vacillating purpose and incapacity to reason correctly on the most simple subjects, are too often seen connected with the aroma of the deadly weed, as the victim unfolds in trembling accents his tale of blighted prospects and chilled affections.

"So far are we from doubting its power over the moral and physical welfare of the race, that we have not a doubt that it has infinitely more to do with the physical imperfection and early death of the children of its votaries, than its great associate, kenness itself. The deficiency of virile power in many es of long-continued smokers is very marked. Every sur-

again) has. Some years ago, when the practice of tight-lacing, which has ruined many thousands of young ladies, induced the friends of humanity and of the future generations, to make special efforts to arrest the evil, many young men adopted

geon of experience must have observed it. The local surgical and medical treatment most effective in these cases proves conclusively that it is to the debilitating and exhausting influence of tobacco that these sad consequences are due.

"One would think that a man's—more especially a young man's—natural instincts would awaken him to the discovery that some horrid vampire was fanning him from mental sleep to physical death; he has before him every day the bright eye, the elastic step, and the lithe limbs of his companions; he sees, but seems not to understand, the quickly averted eye, the expressive and scornful face of insulted woman, as she refuses to take his offered but defiled seat in the omnibus or rail-car; he permits her to open the window and expose her health to the chill air, to get a little air untainted with the loathsome aroma of his foul breath.

"A person who is saturated with tobacco, or tobacco poisoned, acquires a sodden or dirty yellow hue; two whiffs of his breath will scent a large room; you may nose him before he takes his seat. Of this he is entirely unconscious; he will give you the full force of his lungs, and for the most part such people have a great desire to approach and annoy you. We have been followed round a large office table by them, backing continually to escape the nuisance, till we had made a revolution or two before our motive was perceived.

"If there is a vice more prostrating to the body and mind, and more crucifying to all the sympathies of man's spiritual nature, we have yet to be convinced of it."—*The Scalpel*.

Said the celebrated Dr. Rush, sixty years ago: "Who can see groups of boys of six or eight years of age, in our streets smoking cigars, without anticipating such a depreciation of our posterity in health and character, as can scarcely be contemplated, at this distance without pain and horror?" Alas! the horrid spectacle is now before our eyes, and nowhere more prevalent than in our public institutions and seminaries of learning.

the maxim, "natural waists or no wives." It is a pity the maxim was not more generally lived up to. But these young ladies might very well reciprocate the compliment while they accepted the philosophy in adopting the adage, "natural mouths or no husbands." Examples are, indeed, sadly frequent on the thoroughfares of our great cities, of young ladies who have destroyed more than one-half of their breathing capacity by this disgraceful habit of tight-lacing. They cannot possibly live to be old; they can never become mothers of healthy children; and while they do live they must be infirm and miserable in themselves, and a source of anxiety and sorrow to their friends. They are invalids for life. Their wan, expressionless faces, harsh, pinched, contracted features, with livid, bilious discolorations of the skin, proclaim in language that the physiologist cannot mistake, deficient respiration and imperfect depuration. And the counterpart of these appearances and indications may be seen in numerous young men who promenade the streets behind lighted cigars.

But although the physiological result is the same in the cases of tobacco-using young men and tight-lacing young women, there is a considerable difference anatomically. In the case of the young ladies the obstruction to respiration is external and mechanical, hence there is greater deformity, or "caving in," of the vital organs,

while, with the young men, there is less malformation or deformity of the chest.

Let a tobacco-using young man and a tight-lacing young woman marry, and what must be the character of the offspring? We can see melancholy specimens enough on every hand.

Now the only method which has ever proved effectual for preventing or curing consumption is, to keep the lungs expanded as much as possible. And for this purpose, breathing tubes, spirometers, blow-guns, lifting machines, and other gymnastic contrivances, have been found useful.

A LEARNED DISCUSSION ON TOBACCO.

I cannot better illustrate the delusion that may exist in high places, even among the learned, on the subject of tobacco-using, than by the relation of the following incident: In 1862, I attended the annual meeting of the British Scientific Association, in Cambridge, England. In the Section on Physiology, a paper was read on the evil effects of tobacco-using. The author stated very clearly the various morbid conditions and diseases which are well known to result from the habit, and quoted a respectable array of medical authorities who declared it to be extremely pernicious. The discussion that followed the reading of the paper was amusing, if not instructive. Every one who spoke on the subject (and they were all medical gentle-

men), condemned, not the tobacco, but the author of the essay! "He was not a competent judge." "His opinions were of no authority." "He was no physiologist," etc. All who spoke, advocated the use of tobacco—moderately, of course. One gentleman said that, "next to alcohol, tobacco was the best-abused article in existence." Another stated that he had used "the weed" for twenty-three years without being harmed by it. A third regarded it "favorable to mentality," a fourth considered its employment in moderation "decidedly hygienic." A fifth said, "I always find my ideas to flow more consecutively after a few whiffs from a good cigar;" and a sixth justified its use by reference to the Turks, "who used tobacco freely, yet were a strong and courageous race." No one replied a word to the facts, or pretended to meet the arguments presented in the paper; but all who spoke, contented themselves with the utterances of opinions in praise of tobacco, and denunciations of the author. Surely, if an association of scientific men whose members claim to be as learned a body as exists on the earth, can gravely utter such arrant fallacies, we need not wonder at the widespread ignorance of the non-professional people on this subject.

MENTAL EVILS OF TOBACCO-USING.

Mind, in its manifestations, is dependent on the *conditions* of the bodily organs. So intimate, in-

deed, are the relations of mind and body that, whatever depraves or enfeebles one, must inevitably, to some extent, injuriously affect the other. As we have seen, the effect of narcotic stimulants is to unbalance the circulation, cause preternatural activity in some organs at the expense of others, thereby deranging all. Under the influence of these agents the mental processes are performed in a hurried, disorderly manner, and, as a consequence, the perceptions are imperfect, the reflections unsound, rendering the reasoning powers uncertain and the judgment unreliable; and it should be particularly noticed that, in this condition of unbalanced circulation and perverted nervous radiations, some of the propensities are morbidly excited at the expense of the moral emotions and intellectual faculties.

It has been claimed, by others than the medical men of the British Association, that tobacco-using energizes the intellectual organs, promotes intense or concentrated thinking, and is thus favorable to the development of mental power. Such persons confound mental *irritation*, which is disease, with normal action. Tobacco does, indeed, occasion a forced, and preternatural *attempt or effort* at thinking, just as the delirium of a fever does. The mental organs are disturbed; they cannot rest, and hence their functions are exercised *abnormally*. The thinking, or the reasoning, which is performed under the controlling influence of to-

bacco, or of any other morbid agent, cannot be depended on. It is, to a greater or less extent, dreamy and fantastical. Sound reasoning and correct conclusions depend on normal recognitions; objects must be seen as they are, and their relations truly perceived, or the mind cannot possibly judge and feel aright. The actions of the mental organs—all manifestations of mind, whether thoughts, feelings, sentiments, or propensities; whether intellectual or affectuous—are dependent on the circulation of blood in the brain. Let the blood be congested, or increased, or decreased, in the brain, and the mental processes will vary accordingly. Or if the blood is impure, the mental processes will be more or less deranged. These facts are sufficiently illustrated in cases of ordinary dreaming, somnambulism, insanity, delirium, etc.

Now, so far as the intellectual processes, which are performed under the influence of tobacco, alcohol, or opium, can be expressed in words, we have all the explanation the matter requires in the gibberish of the intoxicated person. His language, as well as his acts, indicates the state of his mental organs, as truly as words of wisdom indicate the mental operations of the sober person. Exhilaration, which is the first stage or degree of intoxication, is simply a feverish disturbance of the brain organs; and such a state of disease, however actively or rapidly it may cause the mental processes to be performed, is not favorable to the cogitations of

the philosopher. It is true that persons may talk glibly, write fluently, work actively, preach powerfully, and pray fervently, while using tobacco; but their works, their thoughts, their feelings, will not be improved thereby. On the contrary, had they never been vitiated in this manner, they could certainly have done these things better. Some persons have that degree of mental culture, or that original capacity of mind, that they can exhibit comparatively great talent, while besotted with tobacco, intoxicated with alcohol, becrazed with opium, or surfeited with gluttony. But what person in his right mind will affirm that these conditions add anything to their mental capacity?

Persons cannot study so closely, so enduringly, nor so accurately, under the influence of tobacco. This fact has been demonstrated by ample experiment, as well as proved by the laws of physiology. In some of the German Universities, where tobacco-smoking is almost as common as breathing, careful observation has established the fact that those students who do not use tobacco in any form make the best intellectual progress. And I apprehend that the *quality* of the study that is performed under the influence of tobacco, is as defective as its quantity. Philosophical problems, theological dogmas, metaphysical speculations, and even political and sociological questions, are liable to be influenced by the pathological condition of the

mental organs. If a given dose of tobacco, alcohol, or opium, can so disturb the circulation of the brain as to cause the mind to perceive the relations of things falsely, to recognize objects as they do not exist, to imagine innumerable preternatural objects and events, as in insanity, delirium, etc., it follows by irresistible logic that any dose or quantity must, to a corresponding extent, disorder the mental operations and render their deductions unsafe as guides to truth. Indeed, it may be laid down as a physiological maxim that the only condition of correct ratiocination is, "a sound mind in a sound body."

MORAL EVILS OF TOBACCO-USING.

If our physical and mental natures are depraved or perverted by any cause, our moral nature must suffer correspondingly. Our moral powers—the crowning glory of humanity, and the qualities that distinguish man from and raise him in the scale of being above the brute creation—relate us to right, to duty, to truth, to immortality, to God. The exercise of the moral organs constitutes our sentiments and emotions, as distinguished from passions and propensities. The influence of tobacco is just as demoralizing as it is devitalizing and dementing. How can it be otherwise? The nervine and stimulant effects of tobacco dis-

turb the action of the moral organs, and its narcotic effect torpifies or stupefies them, as it does all the mental organs. The moral sense is confused, the finer sensibilities are impaired, the conscience is blunted, and the aspirations of the soul are influenced more in the downward than in the Heavenward direction. The universal experience of all mankind will attest, and the intelligent observation of every individual will confirm, the statement that, precisely in the ratio that persons indulge in narcotic stimulants, the mental powers are unbalanced, the "lower propensities" acquiring undue and inordinate activity at the expense, not only of the vital stamina, but also at the expense of the intellectual and moral nature. The whole being is not only perverted, but introverted and retroverted. The association of tobacco and alcohol with gambling, prostitution, and all the disreputable avocations in society is a sufficient attestation of this principle. Those who can understand the easy transition from foul blood, disturbed circulation, and preternatural excitement of the "animal passions," to immoral conduct and general licentiousness, will not wonder at the frequent and otherwise unaccountable eccentricities, debaucheries, or even crimes, of men in high position, or even in holy orders. There is no place so high, no position so sacred, no character so exalted, no responsibility so great, no human being so pure, that the demoralization occasioned by the habitual

use of any narcotic stimulant, may not prepare for deeds of darkness and shame.

Tobacco-using, even more than liquor-drinking, disqualifies the mind for exercising its intuitions concerning right and wrong; it degrades the moral sense below the intellectual recognitions. Alcohol so disturbs the mind as to confuse the reason more than it dethrones the conscience, while tobacco debases the moral sense more than it confuses the intellect.*

In the delirium tremens, when induced by alcohol, the patient will talk coherently, yet recklessly. He will answer to questions pertinently, yet untruthfully. He will make the most outrageously false assertions with apparent candor and sincerity. He talks automatically, yet responds to such ideas as are suggested by others, but of himself seems to have no perception of what is true or false. The tobacco-user, in his similar hallucination, is more correct in his intellectual processes. He may reason logically and conclude justly, with very little moral sense or disposition to act right. He will confess that tobacco is a curse to him, and yet show no disposition to aban-

* The liquor-drinker's vision is distorted so that he sees enemies, ghosts, or goblins, fiends and demons, in friends and neighbors, wife and children. This is why he so frequently assaults or murders them. The tobacco-user has his vision dimmed, or he sees fantastical images and harmless specters which do not call his muscles into violent action. This is why he is always peacefully disposed.

don it. He will acknowledge that it is a terrible evil to society, yet feel no impulse to do anything about it. He seems to know, but his will-power is in a state of semi-paralysis. The person who is under the full influence of liquor can act, but he cannot understand; while the person who is correspondingly *tobacconized*, can understand, but he cannot act. The liquor-drinker, to a much greater extent, loses his perceptions of right and wrong. The tobacco-user may recognize a thing or an act to be good or bad, yet feel indifferent about it.

A distinguished advocate of temperance (a medical man), who used tobacco excessively, said to me, a few years ago, as we were returning from a session of a National Temperance Organization of which he was the presiding officer, "Tobacco is as much worse than liquor as palsy is worse than fever. I know it, I feel it, but"—he shook his head, and did not finish the sentence. A few weeks afterward he died suddenly of "heart disease." Were it useful to do so, I could give the names of several clergymen who used tobacco excessively, and who died as suddenly, in each case the cause of death being ascribed to "heart disease," or "apoplexy."

If you admonish the liquor-drinker of his evil habit, he may be angry, perhaps assault you. But you may lecture the tobacco-user until your tongue is sore, and you cannot offend him. One

is excited. The other is sedated. The tobacco-user will prefer that you do not lecture him before folks ; but privately he will always take it kindly. He will confess all that you can allege against his evil habit, yet seem to care as little about it as though you had smoked a cigar with him. Tell him that his example is damaging to society ; that he is making himself disagreeable, offensive, and disgusting to others ; that he is misleading his fellow-beings, and training up his own children in the way they should not go : he will hear you with stoical complacency, manifest as much concern as the lamp-post would have done if you had delivered the same discourse to it, and perhaps evince his appreciation of your preachment in smoking a cigar into your face the while.

If "cleanliness is next to godliness," filthiness is akin to wickedness. It *is* wickedness. In the sight of High Heaven the laws which govern the bodily organization are just as sacred, just as holy (and disobedience to them just as sinful), as are the laws which preside over the mental and spiritual natures. All are God's laws. The Bible declares that our bodies are the temples of the living God, and that whosoever defileth these temples, God will destroy. Let not the tobacco-user think that he can escape the fearful penalty ; that laws can be abrogated, or suspended, or in any manner modified to individual cases. The person who defiles himself with tobacco *is* destroyed

physically, mentally, morally, and socially, just to the extent that he is defiled. The penalty being the inevitable consequence, there is no escape from it.

But has any one a moral right to poison the common atmosphere? A person has no more right to pollute the air which all must breathe alike with tobacco smoke, than he has to poison it with the *fomites* of yellow fever, or the infection of small-pox. He has no more right to puff contagion around him from a pipe, or cigar, than he has to spread the virus of diphtheria wherever he goes. And when we have a government which knows its duty and performs it, in the protection of person and property, my neighbor will no more be allowed to spit tobacco-juice in my house, or blow tobacco smoke into my face, than he will be permitted to strike me with felonious intent, or stab me with malice *prepense*.

If one-fourth or even one-half of the people choose to defile themselves, and poison *their own atmosphere*, what right have they to defile us, and poison *our atmosphere*? Surely, if three-quarters of the people prefer to be clean, and decent, and wholesome, they ought to have as much *right to do right* as the remaining one-fourth has to do wrong.

As an illustration of how absurdly selfish a man can feel and reason when his moral sense is under the dominion of tobacco, I may mention the following incident: Said I to a gentleman who

walked into my office with a lighted cigar in his mouth, which circumstance led to a little discussion between us, "Suppose you were sitting on the front steps of one of the palatial mansions in Fifth Avenue, indulging in your cigar as now, when it was offensive to all of the inmates of the house, would you, in that case, have a moral right to smoke there?"

"Ah! well, that would depend on circumstances. Providing the smoking gave me more pleasure than it caused pain to others, then I consider that I should have a perfect right to enjoy myself in that way."

"But which party is to be the judge of your pleasure and their pain?"

"Of course *I* am. They could not know anything about *my* pleasure."

The unmitigated selfishness of the logic is characteristic of the ineffable ridiculousness of the habit.

To perceive truth, one must live truthfully. To understand what relation the things of this world and the beings of this universe bear to each other or to himself, one must be in normal conditions. To be the true interpreter of the book of nature, one must live in obedience to the mandates of the Author of that book.

SOCIAL EVILS OF TOBACCO-USING.

As the tone, temper, character, physical integrity, intellectual status, and moral standing of so-

ciety are only the aggregate of individual qualities, no argument is needed to show that every person who indulges in the degrading habit of tobacco-using damages society as well as injures himself. Every person who tells a lie, who utters profane language, who cheats, or steals, or robs, or murders, does something toward the demoralization of society. But every one who lives a life according to the laws of life, who does not contaminate himself, and who keeps the body at all times "an acceptable offering" to his Creator, contributes to the well-being and improvement of society. The influence of one person may be better or worse than that of another, because of talent or position; but with the talents of an angel, a man's influence may be that of a fool. He may do more evil by the one pernicious example of tobacco-using than the most brilliant intellect, or the most generous alms-giving, can atone for.

It is universally admitted that tobacco-using creates a thirst for strong drink, and leads directly in the pathway of drunkenness. It also causes a desire for strong seasonings, pungent aliments, and gross foods of all kinds, thus tending to gluttony and debauchery. Many temperance men have made a bad matter worse by changing the habit of liquor-drinking to that of tobacco-using. Ample experience has demonstrated that it is much more difficult to reform a tobacco-user, other cir-

cumstances being equal, than it is to reform a liquor-drinker.

But what an example the person sets to the rising generation who voluntarily and persistently defiles himself with tobacco! How can he talk decency, teach duty, preach morality, lecture on temperance, or profess philanthropy, when, with every breath, he gives evidence, strong and rank, that he deliberately disobeys the laws which God has implanted in his organization?

Wives and children are not unfrequently rendered sickly by the breath and perspiration of tobacco-using husbands and fathers. I have known many cases of "nervousness," and of incipient consumption, for whose existence no adequate cause could be discovered save the tobacco-using habit of the husband; and I have known many cases in which these patients, who had suffered for years of nameless and unaccountable disorders of the nervous system, rapidly recovered on being absent from "home" for a few weeks. And I have known hundreds of infants and young children to be puny, stunted, and scrofulous, many of them incurably so, for no discoverable cause except the smoke and excretions of tobacco-using fathers.

THE TOBACCO BUSINESS.

If tobacco-using is wrong, then tobacco-selling is a wicked trade. And if both using and selling

are blameworthy, then is tobacco-raising a vocation accursed of God. I have known extensive dealers in the article who would never use a particle of it, so convinced were they of its evil effects, and so care-taking were they of their own precious selves that they would not even test the quality of their various brands of cigars except by proxy. They did not wish to injure themselves, yet they were willing to amass fortunes by ruining others. And I have known persons who pretended to be reformers, nay, who professed to be Christians, and who would no more think of defiling themselves by smoking, chewing, or snuffing, tobacco, than they would think of committing the crimes of theft or murder, but who did defile themselves by cultivating extensive fields of tobacco for the market. I cannot understand how these tobacco-raisers are less guilty, less wicked, less the emissaries of evil, less condemned of Heaven, less liable to punishment here or hereafter, than are the tobacco-sellers or the tobacco-users. Certainly they sin with less temptation, and this is an aggravation of the offense.*

TOBACCO CULTURE AND REVENUE.

Another social evil is the deterioration of the soil wherever the tobacco crop is cultivated. No

*The following extract from a sermon recently delivered in Chicago, Ill., by Rev. Dr. Hatfield, has the ring of practical

known production so rapidly impoverishes the land on which it is grown. Indeed, everything about the tobacco business—its culture, its manufacture, its traffic, its use—is demoralizing and pestiferous, as much so as is everything connected with alcoholic beverages. Who that reads the daily papers does not know that tobacco frauds, and whisky frauds, on the revenue, are a more prominent topic than are all the frauds on the sixteen hundred other taxable commodities? And yet, not long since, a convention of tobacco merchants, representing \$50,000,000 of capital invested in this nefarious commerce, assembled in Cleveland, Ohio, for the purpose of concerting measures to have the “oppressive restrictions” of government removed, so that the dealers could do a larger and more profitable business. So, too, the liquor merchants, whose immense breweries and distilleries are rising like pestilential palaces all over the land, are holding conventions to induce government to mitigate or remove entirely the restrictions to their soul-and-body-destroying merchandise. And it is worthy

Christianity and true philanthropy, and is as applicable to the tobacco as it is to the liquor business: “It was not to be expected that the farmer should control his products in the market; but if he raised them with a knowledge that they would be used for making spirituous liquors, he was guilty. So commission merchants, who sold grain for purposes of distillation, were guilty. If there were any such in his audience they might wonder that he included them; but they should remember that this business, first and last, up and down, inside and out, was bad, and of the devil. They had better keep their hands clean of it.”

of remark that all other branches of trade, all useful avocations, sustain their share of the burdens of government with comparatively little complaint. Oh! that peoples and government could see that, *to permit the existence* of these abominable callings is a war on nature, an outrage on humanity, and an insult to Deity.

TOBACCO AND INTEMPERANCE.

As the temperance reformation and the anti tobacco reformation are intimately related, and as a large proportion of the leading advocates of temperance are notorious tobacco sots, it becomes an important and interesting question, Which is the greater evil of the two, tobacco-using or liquor-drinking? From much observation and a careful study of the subject for a period of more than twenty years, I have come to the conclusion that, so far as the question of health is concerned, tobacco-using is much the greater evil. I say nothing, in this connection, of tobacco-using as among the prominent predisposing causes of intemperance; but, *per se*, I regard tobacco-using as much more destructive to vitality than liquor-drinking. It is true that tobacco-using does not occasion the "disorderly conduct" for which so many are arrested daily in our large cities, for the reason that the narcotic effects of tobacco are more prominent (the contrary being the case with alcohol); and this is the reason why, as already explained, it is

more intensely antivital. The tobacco bane wastes the vital powers more imperceptibly, more insidiously, and for this very reason more effectually, than the stimulation of the alcoholic bane does, provided both are used with equal freedom.

The strongest objection that is or can be brought against the temperance cause is the fact that so many who abstain from the intoxication of alcoholic liquor find a ready substitute in a greater degree of the intoxication of tobacco; while a strong argument against the anti-tobacco reform is the fact that a majority of total abstainers from alcoholic beverages, resort to alcoholic medicine on almost every occasion of sickness or indisposition. It is a pity that both classes of reformers could not be a little more consistent. The jaded laborer, who is accustomed to the use of tobacco, finds the same sense of rest, quiet, comfort, and reinvigoration, from his dirty pipe that the inebriate does from his accustomed fire-water. And just here, perhaps, it may help both the temperance and the anti-tobacco causes, to point out the chief error and the great stumbling-block of the temperance advocates. *It is alcoholic medication.* Nearly all of the world-renowned champions of temperance are in a muddle on this question. Though condemning alcohol as a poison, as antivitalizing in health, they admit that it is just the opposite—a “supporter of vitality”—in sickness and debility.

Now, alcohol, in medical parlance, and accord-

ing to the standard *materia medicas*, does not possess more than one-third the "medicinal properties" that tobacco does. And it is not a little singular (and a very singular inconsistency it is, too,) that those persons who use tobacco habitually and abjure alcoholic beverages, never claim that tobacco does or can "support vitality" under any possible circumstances. Yet they might as well, for tobacco is admitted to possess all of the "properties" which render alcohol a "supporter of vitality," except, perhaps, the exploded nonsense of "respiratory food." I fear the temperance advocates (unconsciously, of course) are making themselves the allies of the rumsellers, in admitting that alcoholic poison is a vitalizing agent. And I fear that the medical profession is doing more harm in prescribing alcohol as a medicine than it is doing good in talking temperance. If the *rationale* of the effects of alcohol, opium, and tobacco, as I have presented it, is correct, it is demonstration strong as proof of holy writ, that *all use of alcohol*, or tobacco, as a luxury, or excitant, in health, and as a remedy for disease, *is abuse*.

A late English writer says on the subject of the temperance reformation: "Such consummate nonsense as the 'physiological action of alcohol,' the 'medicinal uses of alcohol,' and temperance substitutes for alcohol, evince imbecility and ignorance enough to swamp a universe laden with the most

advanced truths. The only hope, then, of rescuing society from its ignorance and attendant intemperance is to educate the people physiologically. Spend the money now lavished on temperance organizations, in establishing agencies for the diffusion of sound information, and the temperance movement would take strides such as have never been dreamed of by its most enthusiastic advocates. But let temperance be a principle, a natural truth, an enlightened mind, and a virtuous life, and not an institution with 'moral suasion,' 'legal suasion' and other party issues—mere gibberish, meaningless exclamations, serving to raise a hideous din in the ears of society, and distract mankind from a consideration of the real merits of the question."

The spirit and lesson of the above extract are just as applicable to the anti-tobacco movement as to the temperance movement.

EXPENSIVENESS OF TOBACCO-USING.

It has been estimated that two thousand millions of dollars are annually expended *directly* on alcohol, opium, and tobacco, by the four leading nations of the earth—Great Britain, France, Russia, and the United States. The *indirect* expense—loss of time, sickness, casualties, etc., cannot be reckoned at less than an equal sum. How much of this enormous waste is attributable to tobacco-using we can only estimate approximately. But

it cannot be much if any less than one-fourth of the sum total. Here, then, are *five hundred millions a year* wasted on the "filthy weed." It is, perhaps, useless, yet it is interesting to speculate concerning the amount of good which might be done were this sum devoted to useful purposes. It would certainly go very far toward providing for every pauper, educating every child, and reforming every criminal, on the earth. Several years ago a writer in *Blackwood's Magazine* computed the whole amount of tobacco grown on the face of the globe at not less than two million tons—*four thousand millions of pounds*. The price paid for tobacco by consumers, including all varieties, must exceed twenty-five cents a pound. Choice brands have been sold at auction in Kentucky, quite recently, for one dollar to one dollar and fifty cents per pound; so that, probably, if we should estimate the whole cost of the tobacco used in the world at one thousand millions of dollars annually, we should be more likely to be within than outside of the truth. Then there is the loss of hundreds of thousands of acres of land desecrated to its cultivation, and the loss of the time of hundreds of thousands of persons engaged in its manufacture and sale.

A curious statistician has calculated that the expenditures, directly and indirectly consequent on tobacco-using, amount, in a single century, to a

sum equal to all the property on the earth. If the money expended for tobacco were to be placed at interest, and the interest compounded semi-annually, it would more than justify this seemingly extravagant calculation. If a person smokes half a dozen cigars daily, they must cost him not far from fifty cents. This, at compound interest, would amount, in thirty years, to something like ten thousand dollars. Three hundred millions of smokers at this rate, would waste in a single generation the fabulous sum of \$3,000,000,000,000; and in a century a sum quite beyond all ordinary comprehension.

Many college students expend for cigars more money than their board bill amounts to. I have known a poor mechanic, with his wife, children, and furniture, turned into the street for non-payment of rent, when his cigar bill for the quarter amounted to more than his indebtedness to his landlord.*

These are serious thoughts for the toiling millions, on whom the chief burdens of the extravagance and dissipations of all classes fall. Whatever is used or wasted, they must produce it. If all the property of the earth is wasted in riotous

*The money expended for cigars by thousands of industrious mechanics, and artisans, is just the difference between competence, and a happy home, and a life of poverty and degradation on the part of the parents, and, not unfrequently, crime and vice on the part of the children.

living, sensuality, and debauchery, once in a century, or oftener, they must reproduce it. When the laboring masses emancipate themselves from slavery to tobacco and alcohol, they will very soon thereafter solve the vexed question of Labor and Capital, for they will be independent pecuniarily, and can dictate their own terms.

CONCLUSION.

Perhaps it would be difficult to sum up the nature, "properties," and effects, of tobacco-using more pithily or pertinently than was done long ago in the closing sentence of King James' "Counterblast to Tobacco."

"It is a custom loathsome to the eye, hateful to the nose, harmful to the brain, dangerous to the lungs, and, in the black, stinking fumes thereof, nearest resembling the horrible stygian smoke of the pit that is bottomless."

To which may be added the concluding verse of the description of tobacco and its votaries by Joshua Sylvester, the poet and contemporary of James I. :

"If then tobacco-using be good, how is't
That lewdest, loosest, basest, foolishhest,
The most unthrifty, most intemperate,
Most vicious, most debauched, most desperate,
Pursue it most ; the wisest and the best
Abhor it, shun it, flee it as a pest ?"

THE REMEDY.

“Touch not, taste not, handle not.” Do not think for a moment of substitutes. Abandon the foul thing at once and forever. Do not try abstinence as an experiment, but adopt it as a duty, a principle, a necessity. Differences of opinion exist, and much discussion has been had on the question, whether it is better to abandon the habit of tobacco-using at once, or leave off by degrees. My answer is, *Leave off at once*. The experiment has been thoroughly tested, in cases of liquor-drinkers, of leaving off gradually or suddenly, and the result has always been in favor of breaking off at once.

“Dr. Day, the Superintendent of the Inebriate Asylum, publishes a letter, in which he advocates the practice of totally withdrawing from the habitual drinker all liquor, in opposition to the prevalent idea that the patient must be gradually weaned from the use of alcoholic substances, and founds his assertion on the fact that he has treated 2,500 cases of inebriety during the past ten years. He believes that a man who has been in the habit of drinking a quart of liquor per day will suffer more by being allowed only a pint and gradually less within the same lapse of time, than he will if he is kept altogether from the use of it. The blood of such patients is, in his opinion, poisoned by the substances which alcoholic liquors contain,

and he does not, therefore, see the necessity of administering any more of such poison, even in infinitesimal doses. He believes that nothing short of absolute abstinence will keep the inebriate cured after he is raised up from his former life of degradation."

The morbid desire for tobacco will be overcome with much less suffering on the whole by discarding the poison at once. The least indulgence perpetuates the disordered condition of the nervous system on which the desire depends. There is no safety for the patient until the morbid *irritability* of the nervous system is subdued, and its normal *sensibility* restored; and this can never be accomplished so long as the least particle of tobacco is habitually used. An infinitesimal dose—the least quantity that the organic instincts can appreciate—is sufficient to prolong forever the shattered state of the nervous system; and, until this is restored, the patient is not safe for a moment. Until then, he can have no self-sustaining will-power. Until then, the smell of tobacco, or the sight of a cigar, may reproduce the morbid craving with irresistible force.

Much, however, may be done to mitigate the miseries of the sufferer during his transition state; and having had a large experience in the management of these cases, I may confidently venture the following practical suggestions:

For a few days the patient should be entirely

quiet. He should abstain from business, and do as little thinking as possible. He should take a warm bath daily; and whenever he has severe headache, or feels distracted with restlessness, he should lie down, take a warm foot-bath, and have *warm* wet cloths—as warm as he can well bear—applied to the head. He will also find it greatly advantageous to adopt a very simple dietary. He should, for a week or two at least, live principally on good ripe fruits and plain bread; and even eat sparingly of these. All overloading of the stomach will occasion headache, and aggravate the general feeling of wretchedness. He should also exercise very moderately.

These rules, adhered to for a few days, will emancipate the patient from one of the worst of slaveries that ever degraded human nature. But if weeks, or months, or years, were required, the victory would be worth all it cost. It is rare, however, when the plan I have briefly sketched is rigidly adhered to, that more than one or two weeks is required to redeem, regenerate, and disenthral the most besotted devotee of tobacco. And in a few months thereafter he will look back upon his former condition, and upon the habit of tobacco-using with a loathing and abhorrence of which he now can have no conception; and probably would not again be thus besotted for all the wealth of this world.

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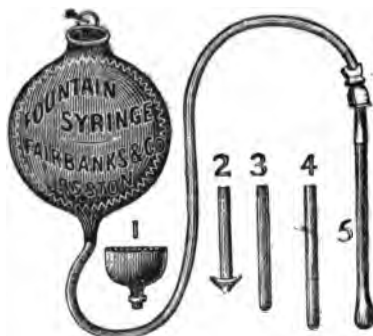
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